



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

## SECTOR 2 — CHART INFORMATION

## SECTOR 2

### BANGKA, BELITUNG, AND KEPULAUAN KARIMATA

**Plan.**—The general description of this sector is from W to E and N to S, with the associated passages and dangers described in sequence with the islands and coast lines.

The principal passages and order of descriptions are Selat Bangka, Selat Gaspar, and Selat Karimata. Minor passages will be described with the appropriate geographic area.

The W boundary of this sector is the E coast of Sumatera between the parallels of 2°00'S, and 4°30'S. The sector is bound on the E by the W coast of Borneo between the parallels 0°40'S, and 3°00'S. The N and S boundaries, may, in general, be described as the area which lies between the E and W boundaries described above, and the parallels of 0°28'S, and 4°30'S.

#### General Remarks

**2.1 Winds—Weather.**—The most important characteristic of the climate, is the seasonal change of the winds. It is customary therefore to recognize two seasons only, the Northeast Monsoon and the Southwest Monsoon. From March to May, the Southwest Monsoon extends N, and covers the whole area from June to August. During September to November the airflow is reversed and the Northeast Monsoon spreads S to the equator, and prevails over the South China Sea from December to January.

The Northeast Monsoon has a significant frequency of N winds over the area, while Southwest Monsoon has a great S component near the equator.

Over this area the average wind speed is 7 to 16 knots in winter, and 4 to 10 knots in summer. During the transition period in spring and autumn the winds is mainly light and variable except in isolated squalls.

The period from May to October is relatively free of gales apart from the localized storms during the passage of tropical storms. Gale force winds are more common during December, with winds of 28 to 33 knots comprising 1 percent of the total reports.

Rainfall is abundant over the whole area. The average annual total is between 292 and 390 cm. Borneo has more thunderstorms than any other region in the world.

Along the coasts many stations report thunder on one day in every three. Inland many places endure thunder on 2 days in 3. Some of the more violent storms cause considerable havoc with severe squalls and torrential rain.

Fog is rare over this area. Poor visibility (less than 5 miles) is reported on less than 5 percent of the observations, but the increases in frequency is greater during September near the Borneo coast; this haze spreads from the S hemisphere in late summer.

Good to excellent visibility prevails for most of the time, through sudden deterioration occurs in the heavier rainstorms. Patches of fog develop at night in estuaries and sheltered inlets and may be dense for a brief period around dawn.

**Tides—Currents.**—The movement of the surface water over the South China Sea is related, in general, to the

monsoons, through the relationship is complex and not direct. The main SW setting current occurs during the Northeast Monsoon (November to March) and the NE setting current occurs during the Southwest Monsoon (May to September). Currents with a velocity of 1 to 2 knots may be encountered.

The predominating influence of weather conditions in the sector are the monsoons. In the summer the winds are S to SE and in the winter they are from the N to NW. The period of the S to SE winds is usually termed the dry season although it is dry only in comparison to the N to NW winds.

The area encompassed by this sector is relatively small but because the land masses in the vicinity of the several passages have a diverse effect on the prevailing winds, each area will be described on an individual basis.

The currents in this sector alternate in direction twice yearly, in phase with the monsoons. During the Northeast Monsoon (November to March) the flow is SE and during the Southwest Monsoon (May to September) the general flow is toward the NW. Since the currents are controlled by oceanographic and meteorological conditions, both within and outside the area, which vary from day to day as well as season to season, the current in any particular location varies both in direction and rate.

The constancy of the predominant directions at the height of the monsoons is high, but it is low in the transition months and only moderate in the months immediately preceding and following the height of the monsoons.

The tidal currents will be further described with each channel.

#### Selat Bangka

**2.2** Selat Bangka, 120 miles long, is the strait which separates Pulau Bangka from Sumatera. It lies in a general NW and SE direction and is the best route between Singapore and Selat Sunda.

The coast of Sumatera, which forms the W side of Selat Bangka, is low, densely wooded, and affords no useful landmarks other than several points which can be distinguished only from short distances. The entire coast of Sumatera forming the W side of Selat Bangka is bordered by a mud flat, narrow by the points but extending from 1 to 7.5 miles offshore, with depths of less than 4.8m in the bays between them. Towards the Bangka side, the bottom becomes harder and even rocky.

The Pulau Bangka side of the strait, in contrast to the Sumatera side, has hills and numerous mountains. It is remarkable that although the latter attains no great elevation, the summits are generally obscured by clouds.

The principal rivers which flow into the strait are Sungai Banyuasin Air Banyuasin and Sungai Palembang (Air Musi) in Sumatera, which are navigable for a considerable distance.

A number of unimportant streams flow through the Bangka coast into the strait by way of generally marshy outlets.

Kepulauan Nangka, a group of coral islets and rocks, lies close off the Bangka coast about midway through the strait and a number of detached islets and rocks lie in the strait.

**Winds—Weather.**—In Selat Bangka, the general wind direction from April to October is a steady SE and from January to March the NW monsoon is relatively constant. Squally weather is most marked in the NW monsoon with the greater activity at night. Appreciable seas occur when fresh winds oppose the tidal currents.

**Tides—Currents.**—From November to April, the current sets SE through the strait at a rate of up to 1 knot.

The SE set persists on the Sumatera side of the strait throughout the SE monsoon. At the height of this monsoon, in July, a NW set of up to 0.25 knot prevails off the Bangka coast up to and beyond Gosong Amelia. In other months the current off the Bangka coast is light and variable.

The tidal currents flow into Selat Bangka from both ends, meeting in the neighborhood of Kepulauan Nangka.

There is usually only one strong incoming current, separated by a slack period.

Tide rips are frequently found abreast Kepulauan Nangka during the Southeast Monsoon and are probably due to the meeting of the current setting SE along the Sumatera shore in the N part of the strait with the current setting NW along the Bangka shore in the S part of the strait.

Vessels should guard against being set in or out of the mouth of Sungai Palembang (Air Musi).

In the S approach to Selat Bangka, there is sometimes a S flow for days on end, with a maximum rate of 2.25 knots at the height of the Northwest Monsoon.

At other times, the weak N flow lasts only a maximum period of 4 hours and reaches a rate of only 0.5 knot, the flow being S for the rest of the day. It thus appears that during the NW monsoon there is a S current of 1 to 1.5 knots.

Between Ujung Batakarang and Tanjung Limaubungkuk, 30 miles SE, after heavy rains the ordinary currents are considerably accelerated and diverted by the freshets from the many rivers in this vicinity.

The flow is toward Tanjung Kelian, on the N shore, until they reach mid-channel. These currents should be carefully guarded against at night.

**Caution.**—There are numerous dangerous wrecks in the S and N entrance to the strait; the positions of known wrecks may be seen on the chart.

## Selat Bangka—North Entrance

**2.3 Ujung Batakarang** (2°05'S., 104°53'E.), on the W side of the N entrance to Selat Bangka, is the general name of the rounded part of this section of the Sumatera coast. It is made prominent by the trees on it; they are high right down to the sea and give it a jagged appearance.

The mudbank which extends from the coast is continually extending, generally narrowing the passage between the point and Karang Ular; the depths are regular and the coast can be approached to within depths of 10m. It was reported that the coast has extended nearly 1 mile E of its charted position.

**Tanjung Ular** (1°58'S., 105°07'E.), a rocky point, 48m high, is located on the Bangka side of the entrance to Selat Bangka.

A prominent sandy beach fronts the high trees N and S of the point.

A light is shown from a metal framework tower, with an elevation of 20m, situated on Tanjung Ular. It was reported that by day, the light structure was obscured by trees when S of Tanjung Besayap.

Tanjung Besayap, 51m high, 4 miles SSW of Tanjung Ular, is also rocky.

The coast between Tanjung Ular and Tanjung Besayap is fringed by a reef. The 5.5m line lies up to 2 miles offshore in this area and is steep-to. This part of the coast must be given a wide berth of at least 2.5 miles, owing to the reefs off it.

A rock awash lies 2.5 miles SW of Tanjung Ular and between this rock and the coastal reef are several drying reefs.

**Tanjung Berani** (2°04'S., 105°07'E.) is a moderately-high rocky point, located 3.5 miles S of Tanjung Besayap.

**Karang Ular** (1°58'S., 104°57'E.) lies near the middle of the N entrance to Selat Bangka, 7 miles NE of Ujung Batakarang and 10 miles W of Tanjung Ular. It consists of two rocky patches, with a depth of 2.2m over the N patch and less than 1.8m over the S patch.

A light is shown from the N patch. In 1991, it was reported that a crude oil storage tanker was situated 3.8 miles S of Karang Ular, in a depth of 22m.

**Caution.**—Less water than charted has been reported (1998) about 2.5 miles NE of Karang Ular.

**Tanjung Kelian** (2°05'S., 105°08'E.), on the Bangka coast, is a low, sandy point 1 mile S of Tanjung Berani and is subject to constant erosion. A light, shown from a stone tower, 53m high, with the upper part red and the lower part white, is situated on the point.

An oil pier, 117m long with a depth of 7m at its head, extends SE from a position on shore 0.1 mile E of the lighthouse. The pier is privately maintained and is not for public use.

**2.4 Muntok** (2°04'S., 105°10'E.) ([World Port Index No. 50140](#)) stands at the mouth of Sungai Muntok, 2 miles ENE of Tanjung Kelian. A flagstaff is situated 0.25 mile NNE of the river's mouth.

A dredged channel having a depth of 1.5m leads across the shore bank to a small basin off the town.

**Pilotage.**—No pilots are reported to be available at the port of Muntok.

**Anchorage.**—Anchorage for large vessels, having good holding ground, may be obtained, in depths of 10 to 22m, soft mud, from 1 to 1.8 miles offshore with the summit of Menumbing bearing 012° and Tanjung Kelian bearing between 282° and 293°.

Vessels are cautioned not to anchor within an area of 0.5 mile radius centered 2.3 miles SE of Muntok; this area being designated for the topping off of tankers from Palembang.

The coast between Tanjung Kelian and Tanjung Punai, 11.5 miles ESE, is being washed away at an appreciable rate and is marked by trees standing in the water.

Tanjung Punai is low and rounded, but Tanjung Sukal and Tanjung Seribu, 2.25 miles and 5 miles ENE of Tanjung Punai, respectively, are high, rocky points.

Tanjung Sukal is easily identified by its two prominent conical hills, the highest of which is 71m. Karang Seribu, a reef with several above water rocks, lies 0.8 miles S of Tanjung Seribu.

**Tanjung Tada** (Tanjung Tadah)(2°08'S., 105°26'E.), 3 miles E of Tanjung Seribu, has a hill on it 57m high and is prominent from S.

Between Tanjung Tadah and the W entrance point of Sungai Jering, 8 miles ENE, the coast is low and fronted by a coastal bank with depths of less than 2m which is narrow off Tanjung Tadah and widens to 4 miles off the river's mouth.

The W bank of Sungai Jering is low and covered with mangroves; the E bank is high and fringed with rocks. Tanjungniur is situated on its E bank.

Tanjung Resang is situated 2.8 miles SSE of Tanjungniur.

**2.5 Tanjung Raya** (2°08'S., 105°40'E.), a high rocky point, is located 4.5 miles E of Tanjung Resang; the intervening coast is high. Pulau Bembang, 1.5 miles W of Tanjung Raya, is a rocky islet, 52m high, lying on the coastal reef which extends 0.8 mile offshore here. It does not show plainly against the land behind.

From a position 3 miles E of Tanjung Raya to the mouth of Sungai Sembulan, 16 miles SSE, the coast is mostly marshy and covered with mangroves, then 2 miles SSW to Tanjung Batu, the shore is sandy.

A group of rocky islets lies on the drying coastal bank, which extends 2.8 miles offshore, midway between Tanjung Raya and Tanjung Batu. Pulau Medang, 42m high, is the highest islet and can be seen for a considerable distance. Pulau Terumbu lies at the seaward edge of the bank with three drying rocks close W of it.

**Menumbing** (2°01'S., 105°11'E.), 445m high, 5 miles NE of Tanjung Kelian, is the highest peak of the range of hills and is a useful landmark. The slopes of the hills are covered with imposing masses of granite, with vegetation between. Radio masts are situated on its summit.

Gunung Belo, 236m high; Gunung Panjang, 233m high; and Bukit Batu, 216m high, lie 10 miles ENE, 11.8 miles ENE, and 16.5 miles NE, respectively, of Tanjung Kelian.

Other landmarks along this coast are Bukit Asam, 201m high, located 10.5 miles N of Tanjung Tadah; Gunung Pandan, 173m high, located 4 miles NNW of Tanjung Raya; and the Maras Range, the highest range on Pulau Bangka, with three peaks which rise to a height of 699m, 19 miles NE of Tanjung Raya. This range gives the appearance of a crown when seen from Selat Bangka.

**Caution.**—In addition to Karang Ular, previously described in [paragraph 2.3](#), other dangers exist along this sector of Selat Bangka.

**Karang Haji** (2°06'S., 105°06'E.), which has some black rocks on it, lies 1.3 miles SW of Tanjung Kelian.

An isolated shoal patch, with a least depth of 3m, lies 1.3 miles W of Tanjung Kelian; a shoal patch, with a least depth of 4.5m, lies 1.3 miles S of the same point.

Dangerous wrecks lie 2 miles S and 2.5 miles SSW of Karang Haji.

Selat Kelian, a deep pass with a least width of 0.5 mile, lies between the above dangers and Tanjung Kelian.

**Gosong Muntok** (2°09'S., 105°12'E.), an extensive bank, lies in a NW to SE direction. It has a least depth of 3m, located 6.5 miles W of Tanjung Punai.

**2.6 Gosong Amelia** (2°13'S., 105°15'E.), with a least depth of 4.5m located 5 miles SSW of Tanjung Punai, lies on the SE part of an extensive bank that extends NW and encompasses Gosong Muntok. Gosong Amelia and Gosong Muntok are composed of hard sand; passage between them should not be undertaken.

Karang Haji, Gosong Muntok, and Gosong Amelia lie between the main fairway and a channel, with depths of 18 to 57m, which extends from a position 3 miles SW of Tanjung Punai to 1 mile WNW of Tanjung Kelian and includes Selat (Kelian) Lalang.

The passage between these banks and the Bangka coast is safe and is used by vessels proceeding to and from Teluk Muntok, which lies off the town of Muntok.

**Karang Brombrom** (2°13'S., 105°20'E.), a shoal which dries in places, is about 3.5 miles in length in an E-W direction. The W end of the shoal is located about 4 miles SSE of Tanjung Punai. A light has been established on the S side of the reef.

There is a channel, with depths of from 11 to 24m, between the N side of the shoal and the coastal bank which extends along the Bangka shore. This channel is frequently used by low-powered vessels proceeding W during the NW monsoon.

An isolated 8.5m patch lies in mid-channel 7.5 miles S of Tanjung Tadah.

Sungai Banyuasin (Air Banyuasin), a broad river with its many tributaries, flows into Selat Bangka between Tanjung Kempeh and Tanjung Api Api, about 6.8 miles SSW. A survey beacon stands in shallow water 1.5 mile NE of Tanjung Kempeh and a light is shown from 0.9 mile S of the beacon. The greater part of the Sungai Banyuasin (Air Banyuasin) estuary is occupied by shoals, leaving a narrow channel along the SE side past Tanjung Api Api.

**Caution.**—Attention is drawn to a dangerous mine area in Sungai Banyuasin. See Pub. 120, *Sailing Directions* (Planning Guide) Pacific Ocean and Southeast Asia for details.

**2.7 At Tanjung Serah** (2°23'S., 104°44'E.), 8.3 miles SW of Tanjung Api Api, the river divides into two branches. The N branch is Air Lalang; the Banyuasin continues S for 30 miles where the two tributaries flow into it, dividing Air Liman to SW and Air Senda to WNW. The Senda leads into **Air Teluktengguland** (2°37'S., 104°17'E.) which becomes **Air Dawas** (2°36'S., 104°11'E.). Air Tjalik, a branch from the Senda, joins Air Lalang in position 2°23'S, 104°38'E.

**Ramba** (2°37'S., 104°08'E.), an oil terminal on the Dawas River provides facilities for the loading of crude oil. Vessels of up to 10,000 dwt and 90m overall length can berth there in brackish water.

**Pilotage.**—Pilotage is not compulsory but berthing and unberthing operations are limited to daylight hours only.

Air Lalang is navigable by vessels not exceeding 5.5m draft, with local knowledge up to the first 100 miles of its 130 mile length. There are several oil wells along the course of this river, connected by pipeline to Palembang.

**2.8 Sungai Palembang** (Air Musi) (2°18'S., 104°55'E.) flows into Selat Bangka at its junction with Sungai Banyuasin Air Banyuasin. The river is entered between Tanjung Carat and Tanjung Gedeh, 3 miles SSE.

Tanjung Carat is located 8.5 miles SSE of Tanjung Kampeh. The river trends in a SSW direction and is navigable by sea-going vessels to 6 miles above **Palembang** (2°59'S., 104°46'E.), situated 54 miles up river.

It was reported that there was a least depth of 7.5m over the outer bar off the mouth of the river.

Pulau Payung, a short way within the entrance, divides the river into two navigable channels. A drying sandbank lies near the center of the W channel.

**Restricted area.**—Sungain Palembang (Air Musi) has been declared a restricted area by the Indonesian government. Ships must call at Tanjunguban, Tanjungpinang, or Pontianak before entering and on leaving this area.

Tide gauges are situated in the approach and within the entrance of Sungain Palembang (Air Musi). Odd-numbered gauges are situated on the W side of the channel and even numbered on the E side. The gauges are graduated in decimeters, the lower edge of a number indicating the depth. A correction must be applied to the reading of each gauge to obtain the least depth in the relevant part of the channel.

No. 2 tide gauge (for vessels entering) is situated 0.5 mile S of Tanjung Gedeh. A correction of 13.75 decimeters is to be added to the readings to give least depth in the channel E of Pulau Payung.

No. 3 tide gauge (for vessels entering) is attached to the leading range light structure situated about 2.75 miles N of Tanjung Carat. A correction of 4.5 decimeters is to be added to the readings to give least depth on the outer bar.

No. 4 tide gauge (for vessels leaving) is situated 0.8 mile SE of the S end of Pulau Payung. A correction of 3 decimeters is to be subtracted from the readings to give least depth in the channel W of Pulau Payung.

No. 7 tide gauge is situated 0.25 mile SW of the S end of Pulau Payung.

**Tides—Currents.**—Tidal currents in Sungain Palembang (Air Musi) are of a mixed character, sometimes semi-diurnal but frequently diurnal; there is, however, insufficient information available to give an accurate description.

The average rate of the ebb current is 2 knots and of the flood current from 1 to 1.5 knots; slack water is of short duration.

The flood current is frequently felt as far up as Palembang and vessels lying off the city usually swing 30 minutes after high or low water by the shore.

The surface of the water changes direction first, so that shallow-draft vessels swing before those of deeper draft. If little rain falls in the interior there are sometimes two tides a day, although this is exceptional as the city lies too far from the mouth of the river.

During the rainy season, from November to March, there is sometimes no current at Palembang for days at a time. Several years ago, a vessel did not swing to the flood current during a visit of 3 days.

**Pilotage.**—Pilotage is compulsory, with few exceptions; river pilots maintain a 24 hour service. At Palembang, it is compulsory to take a harbor pilot.

Vessels bound for Sungain Palembang (Air Musi) should inform the Harbormaster at Palembang by radio 24 hours in advance giving the draft of the vessel and ETA at the outer bar.

Ships awaiting the pilot may anchor, in a depth of about 16.4m, about 4 miles NE of the prohibited anchorage.

A pilot and customs station, equipped with radio, is situated at Tanjung Bujut, on the W side of the river 2 miles S of Tanjung Carat.

A pier, 45m long with a least depth alongside of 4.6m, is situated abreast the pilot station. Pilots are usually embarked and disembarked in the vicinity of the outer lighted buoy.

Communications may be established by radio, using VHF channel 12 for the pilot and VHF channel 14 for the harbormaster.

During the long dry season, which occurs every few years, visibility is reduced to 25m by fog. Throughout this period, pilotage is conducted one day for outbound vessels and inbound on the following day, alternately.

This period is reported to end with the return of the rainy season.

**Regulations.**—Regulations require inbound vessels to use the channel E of Pulau Payung. They may use the channel W of the island if their draft exceeds 3.4m, provided permission has first been obtained from the Harbormaster at Palembang.

Outbound vessels must use the channel W of Pulau Payung, passing W of the sandbank.

It was reported recently that the channel E of Pulau Pajung, formerly used by inbound vessels, was closed to navigation and that both inbound and outbound vessels should use the channel W of the island.

Time	Meaning
2 hours to 1 hour before HW	Inbound vessels have priority
2 hours to 45 minutes before HW	Outbound vessels wait between Tanjung Gedeh and Tanjung Carat
At other times	Outbound vessels anchor abreast the numbered anchor berths indicated by notice boards, 2.5 miles S of Pulau Payung

**Anchorage.**—Anchorage is prohibited in an area, with a radius of 0.25 miles, about 6 miles bearing 018° from Tanjung Carat.

**Directions.**—Directions from Selat Bangka are to steer a SSW direction from the N entrance, then a S direction according to courses established by the ranges; these courses lead across the outer bar.

Due to the possible existence of mines, vessels should keep to the range lines, taking care not to be W of the inner range N of 2°17.2'S, 0.4 mile NE of Tanjung Carat. See Pub. 120, Sailing Directions (Planning Guide) Pacific Ocean and Southeast Asia for details.

**Caution.**—There are numerous stranded and dangerous wrecks in the approach to the port. Several of the wrecks are situated very close to each side of the 214.5° and W of the 005.5° leading lines. Most of the wrecks are unmarked;



however, their positions, a number which are approximate, may be seen on the chart. The remaining wrecks are marked by lighted buoys but are reported to be unreliable. The N wreck is marked close NW by a buoy.

## Palembang (2°59'S., 104°46'E.)

World Port Index No. 50330

**2.9** The city of Palembang, which is the local administrative center, is built along both banks of the Sungai Palembang (Air Musi) about 54 miles above the river's mouth. There are berths at Sungaigerong, Plaju, Bagus Kuning, and Kertapati on the S side of the river; the other principal piers are on the N side of the river where the Harbormaster, Customhouse, and Pilot's Office are situated. Container facilities are available at Palembang. With the exception of Belawan, this is the most important port on the E side of Sumatera.

**Tides—Currents.**—The tides are usually diurnal. Average heights at mean high water are 2.1m and about 2.7m at high water springs near the solstices. Maximum tidal height at Palembang is 4 hours later than high water at the outer entrance of Sungai Musi. The maximum velocity of the combined tidal and non-tidal currents is 2 to 3 knots.

**Depths—Limitations.**—There are berths on each side of the river in the areas previously discussed. The maximum size of vessel that can be accommodated is 185m in length with a maximum draft of 7.3m.

**Aspect.**—On the S side of the river, downstream from the mouth of the Air Komering, there are several prominent landmarks.

There is the post office, a square five-story building about 0.8 mile ENE of the E point of Air Komering. About 0.2 mile ESE of the post office is the porch of the swimming pool, very prominent and illuminated at night. Three metal chimneys, 52m high, stand on the E entrance point of Air Komering. About 0.2 mile farther E, there is a group of 12 metal chimneys of the same height.

On the N bank, opposite Sungaigerong, are the buildings of the ferry landing, which are blue in color

The two commercial parts of the town are connected by Ampera Bridge, a road bridge with a central lifting section of 71.9m in length. The vertical clearance above normal water level when the section closed is 9m over a width of 60m. When raised, the section offers a maximum clearance height of 44.5m above normal water level.

**Pilotage.**—It is compulsory to take a harbor pilot at Palembang. Pilots require 12 hours prior arrival notice and 6 hours prior departure notice.

The pilot can be contacted at Palembang Coastal Radio Station on VHF channels 12, 14, and 16.

**Anchorage.**—Vessels anchor between Kundur, 1.8 miles downstream from Air Komering, and Plaju while awaiting berths at Plaju, Sungaigerong, Palembang, or Kertapati. Frequently, as many as six vessels may be at this anchorage where they may have to spend several days waiting for a favorable tide before proceeding down river.

In this anchorage the depth is from 6 to 10m, mud and sand, providing good holding ground.

If the anchorage is congested, large vessels may lack swinging room. Violent squalls are common occurrences during the late afternoon and vessels are liable to drag their anchors at these times. Smaller vessels may anchor anywhere in the channel except in the prohibited anchorages.

Submarine pipelines and cables cross Sungai Palembang (Air Musi), 1.5 miles below, and 2.5 miles above the mouth of Air Komering and in the vicinity of the lift bridge at Palembang. Their landing places are marked by notice boards and anchorage is prohibited in their vicinity.

The coast of Sumatera between Tanjung Gedeh and **Tanjung Limaubungkuk** (2°20'S., 105°13'E.), 18 miles E, is fronted by a bank of hard sand covered by a thin layer of mud, with depths of less than 5m. This bank extends 8 miles offshore near Tanjung Gedeh.

Near Tanjung Gedeh the depths over the bank decrease gradually toward shore but the E part is steep-to and soundings of 13m can be obtained close to its outer edge.

The Air Upang and Air Saleh flow into Selat Bangka, 7.8 miles and 11.5 miles, respectively, ESE of Tanjung Gedeh.

**2.10 Tanjung Selokan** (2°23'S., 105°37'E.), 24 miles E of Tanjung Limaubungkuk, is somewhat higher than the coast to the W. The coast between these two points is covered with moderately high trees.

Several small rivers discharge into Selat Bangka on this stretch of coast. The principal one, Sungai Buluranriding, discharges close W of Tanjung Selokan. A wreck lies approximately 2.5 miles NNW of Tanjung Selokan.

A shoal patch, with a depth of 5.7m, is located 4 miles NE of Tanjung Limaubungkuk. Depths of 8.2m extend 1.3 miles SE and WNW, respectively, from its shallowest part.

## Selat Bangka—Middle Part

**2.11 Tanjung Tapa** (2°41'S., 105°47'E.), on the E coast of Sumatera, 20 miles SSE of Tanjung Selokan, has trees on it. The bay between Tanjung Selokan and Tanjung Tapa is entirely occupied by a soft, fairly steep-to mudbank. A shoal patch, with a least depth of 11.9m, is located 2.5 miles ENE of Tanjung Tapa. A lighted beacon has been established 0.5 mile NE of Tanjung Tapa.

A dangerous wreck lies about 8.5 miles NNW of Tanjung Tapa. The entire coast from Tanjung Selokan to Tanjung Koyan, 19 miles SSE of Tanjung Tapa, is low and covered with mangroves, except for the trees on the various points.

Tanjung Koyan has trees on it 30m high. There is a bay formed between Tanjung Tapa and Tanjung Koyan which should not be approached within the 20m line.

**Tanjung Tedong** (Tanjung Batu) (2°22'S., 105°48'E.), on the Bangka coast, has a prominent hill on it 72m high.

Between Tanjung Tedong and Tanjung Berdaun, 14.5 miles SSE, there is a shallow bay which is of no importance to shipping. Sungai Selan flows into the N part of the bay, 6 miles SE of Tanjung Tedong. Kampung Sungaiselan is a town lying about 10 miles up river and is important as the headquarters of a tin-mining district.

Vessels usually anchor, in a depth of 12m, clay, W of the S point of Pulau Nangka-besar and 6 miles W of the mouth of the

Sungai Selan. Cargo and passengers are conveyed to the village by small craft but in the SE monsoon communication in such small craft is usually dangerous. A 4.8m patch lies 1.3 miles WSW of Tanjung Badaun.

**Tanjung Badaun** (2°35'S, 105°53'E.) is high, thickly wooded, and has a conspicuous white rock 14m high close off it.

Pegunungan Permisan, 491m high, is the highest peak of a range of hills, located 3 miles E of Tanjung Badaun.

Tanjung Berani and Tanjung Paritji, 3 miles and 4.8 miles S of Tanjung Badaun, respectively, are both high and thickly wooded; there is a sandy beach between these two points.

Limaha, 158m high, is a conical hill located 1 mile ESE of Tanjung Berani; a range of hills extends E from it. Tanjung Mentigi is located 9 miles SSE of Tanjung Badaun. Riting, a sharp pointed hill, 101m high, lies 3 miles E of Tanjung Mentigi.

**Tanjung Lelari** (Tanjung Lalari) (2°49'S., 105°57'E.), a sharp, steep point, 23m high, with a conspicuous white beach, is located 5 miles SSE of Tanjung Mentigi. The intervening coast is sand. Bukit Balar, 78m high, an isolated rounded hill 6 miles ENE of Tanjung Lelari, is prominent.

A light is shown from a red metal framework tower, 12m high.

## Selat Bangka—Middle Part—Islets and Dangers

**2.12 Kepulauan Nangka** (2°24'S., 105°47'E.) are three hilly islets lying on a coastal bank which extends 4 miles SW of Tanjung Batu.

Pulau Nangka-besar, the largest of the group, lies with its N extremity 2 miles SSW of Tanjung Batu. Its summit, 87m high, can be seen for a considerable distance.

A sandbank which dries extends 2 miles SE from Pulau Nangka-besar and a reef which also dries and has some above-water rocks on it, extends up to 0.4 mile from the N and E sides of the islet. Several dangerous rocks lie off its W side.

Pulau Gadung, 29m high, 1.5 miles WNW of Pulau Nangka-besar, consists of two islets connected by a ridge of sand which only covers at exceptionally high water. It is fringed by a drying reef which extends 0.3 mile N and SE from the islets. A rock 11m high, lies 0.5 mile SE of Pulau Gadung.

**Pulau Pelepasan** (2°23'S., 105°45'E.), 42m high, lies 0.5 mile WNW of Pulau Pegadung (Pulau Gadung). It is steep, rocky and difficult to approach. A light, shown from a white metal tower, 35m high, is situated on the island.

A reef which dries lies about 0.2 mile W of Pulau Pelepasan. A wreck, with a least depth of 4.8m, is situated 1.3 miles farther WNW.

An isolated shoal patch, with a depth of 5m, is located 1.8 miles SSE of Pulau Pelepasan; other shoal patches lie between the patch and the island.

Pulau Pemain, an islet consisting of two dark masses of rock difficult to identify from the NW, lies inside the 5.5m line, 2 miles NNW of Tanjung Badaun.

**Karang Tembaga** (2°41'S., 105°51'E.), a reef with three drying rocks on it, lies 3 miles SSW of Tanjung Berani. A shoal of sand, stones, and coral, which has a least depth of 0.3m, extends 2.8 miles WNW of Karang Tembaga.

The NW extremity of the shoal is marked by a lighted buoy. A steep-to bank of hard substance, with a least depth of 0.3m, extends 3.3 miles SSE of Karang Tembaga.

## Selat Bangka—South Entrance

**2.13** The Pulau Bangka coast trends 12.5 miles ESE from Tanjung Lelari to a position abreast Pulau Besar.

This section is marshy and the foreshore is nearly 1 mile wide in places. Radar navigation in this area is reported to be difficult due to the lack of good radar targets.

**Pulau Besar** (2°53'S., 106°08'E.), a small islet, 19m high and surrounded by rocks, lies close offshore on the drying coastal bank. This bank extends 0.25 mile S from the coast.

A light shown from a octagonal metal framework tower, 61m high, with a brown and white cupola.

A useful mark in the vicinity is Pandjang is a summit 96m high, located 3 miles ENE of Pulau Besar.

Pulau Batubadaun is a small rocky islet 9m high which lies on the edge of a drying bank 5 miles ESE of Pulau Besar. There are numerous rocks between it and the shore.

Tanjung Limau is located 1 mile E of Pulau Batubadaun. Between Tanjung Limau and Tanjung Labu, 7 miles SE, the coast is low and fringed by a bank which dries 1.5 miles offshore in places. Large, white above-water rocks which lie on this bank give the appearance of houses when seen from the W.

**Tanjung Labu** (2°58'S., 106°20'E.) is the W extremity of a rocky hilly area that extends 3.5 miles E to Tanjung Gosong. A hill, 70m high, rises 1.3 miles E of Tanjung Labu. Sungai Gosong flows out close E of Tanjung Gosong.

Pulau Mempunzi, 15m high, lies 1.5 miles ESE of Tanjung Labu 0.5 mile offshore. Rocks awash, lie 0.25 mile off the seaward side of the islet and between it and the coast.

The coast between Tanjung Gosong and Tanjung Ketapang, 4 miles SE, is marshy and uniformly covered with vegetation. There are numerous prominent white above-water rocks located 1 mile NNW of Tanjung Ketapang on a drying bank which extends 0.8 mile from the coast.

Gadung, 180m high, is a prominent hill, conical in shape, located 3.5 miles NE of Tanjung Ketapang.

Gunung Toboali, a hill 1.5 miles SE of Gadung, has a double peak and is very steep on its W side. A radio mast is situated on Toboali. Gunung Muntzi, 1 mile E of Toboali, also has a double peak. The higher peak which is 272m high slopes gradually on its SE side.

**2.14 Toboali** (3°01'S., 106°27'E.) ([World Port Index No. 50120](#)), the capital of a mining district, is situated on a hillock, 12m high, close E of Tanjung Ketapang. A fort stands on the SE side of the mouth of a small stream which flows out here; the red roof of the barracks, W of the flagstaff, is visible for a considerable distance.

A pier, 320m long, with a depth of 1.5m alongside its head, is used for working lighters and praus.

Anchorage may be taken in a depth of 7m, mud, with Gadung in range with the fort, bearing 039°. From this position, the depths decrease regularly toward the shore.

At times a heavy swell, with S and SW winds, makes landing troublesome.

The transport of cargo between the shore and anchorage is carried out by praus and lighters; it is advisable to give notice of the vessel's arrival.

**Tanjung Saranglayang** (3°05'S., 106°29'E.), 5 miles SSE of Toboali, is easily identified as it has a rounded hill, 53m high. The coast between Toboali and the point is marshy and covered with mangroves, except for a sandy beach at Toboali.

Tanjung Paku, 2.3 miles SE of Tanjung Saranglayang, is fringed by several high rocks which from 7 to 10 miles have the appearance of a large town on the coast. Gunung Lama is a prominent, pyramidal shaped hill 156m high, 1.3 miles NNE of Tanjung Paku.

**Pulau Dapur** (3°08'S., 106°31'E.), two small islets rising from a steep-to bank with depths less than 5m, lies about 1 mile S of Tanjung Paku, the S extremity of the island. A light, from which a racon transmits, is shown from a white iron framework structure 14m high on the S islet. The channel between the islets and the Pulau Bangka mainland is obstructed.

**2.15 Tanjung Koyan** (2°57'S., 105°58'E.) is located on the Sumatera coast and is characterized by a mudbank, steep-to, which fronts this coast for a distance of about 11 miles SSE. Tanjung Koyan and Tanjung Jati, 6 miles SE, should not be approached in depths of less than 22m.

From a position 5 miles S of Tanjung Jati to Tanjung Kait, 8 miles farther S, the mudbank, with depths of less than 5m extends 1 to 2 miles from shore. The bank is extending but soundings here give due warning when a vessel is near the mudbank.

Selat Bangka is entered from the S between **Tanjung Kait** (Lucipera Point) (3°14'S., 106°05'E.) and Pulau Dapur, 26.5 miles ENE. The entrance is divided into a W channel, Lucipara (Maspari) Passage, and an E channel, Stanton Passage, by Pulau Lucipara (Maspari) and the various banks lying N of that islet. The two passages unite about 30 miles within the entrance abreast Tanjung Koyan on the Sumatera side and Tanjung Lelari on the Bangka side.

Lucipara Passage has a least depth of 7m in the fairway and is available for vessels of moderate draft but is not recommended. The W side of the channel is bound by the mud flat which extends from the Sumatera shore; on the E side of the channel, from N to S are Nemesis Bank, Merapi Shoal, Hindostan Bank, and Pulau Lucipara.

**2.16 Nemesis Bank** (2°53'S., 105°59'E.), with a least depth of 2.7m, 4 miles SSE of Tanjung Lelari, forms the N side of Lucipara Passage close S of its junction with Stanton Passage. A lighted buoy is moored near the NW end of the bank. A detached shoal, with a least depth of 10.9m, lies SE of Nemesis Bank and 8.3 miles SE of Tanjung Lelari.

Merapi Shoal, hard sand with a least depth of 5.5m, lies 3.5 miles SE of Tanjung Jati. The shoal which is extending W toward Sumatera, narrows Lucipara Passage to a width of 2 miles.

Hindostan Bank, with a least depth of 1.3m near its N end, extends about 4 miles SSE from a position about 6 miles SSE of Tanjung Jati. There are several ridges of hard sand and stone, with shallow water over them, lying E of Hindostan Bank and parallel with Lucipara Passage. The passages between these ridges are unsafe for navigation.

**Pulau Lucipara** (Maspari) (3°13'S., 106°13'E.), a thickly wooded islet 41m high, lies 8 miles E of Tanjung Kait. It is visible in fine weather from distances up to 15 miles and is reported to give good radar return up to a distance of 11 miles.

A light is shown on the E side of the islet. The islet rises from a fringing reef that dries 1.2m.

Shoal ground with depths of less than 5m extends 2.8 miles SSE and 1.5 miles NNW from the island. A drying reef lies 1.5 miles SE of the islet and a detached shoal with a least depth of 5m lies about 1.3 miles farther SE.

Stanton Passage, the E and principal entrance to Selat Bangka from the S, has a least depth of 8.5m. The passage is marked by navigational aids and is considered to present no particular problem.

The SW side of Stanton Passage is bound by Nemesis Bank, Smits Bank, and Gosaong Melvill.

Smits Bank, with a least depth of 0.4m, lies parallel to Stanton Passage and is formed in part by the hard sand ridges previously described with Hindostan Bank in paragraph 2.16.

Gosong Melvill could be regarded as the NE part of the sand banks that form Smits Bank. Gosong Melvill, with a least depth of 0.9m, is 6.5 miles SW of Tanjung Labu and is marked by a light.

The NE side of Stanton Passage is bound by the coast of Pulau Bangka and Eastern Bank.

Eastern Bank, with a least charted depth of 1.8m, lies parallel to Stanton Passage. Its shallowest part is located 3 miles SSW of Tanjung Labu. A light has been established on the bank 2.8 miles SSW of Tanjung Labu.

In the S entrance of Stanton Passage, there are two patches, each with a depth of 9.1m, located 7 miles S and 8.5 miles SW from the light on Pulau Dapur.

There are charted dangerous wrecks as well as an obstruction lying 5 miles SE of Gosong Melvill. There are also dangerous wrecks and an obstruction charted S of Pulau Dapur in the S approach to the passage.

Anchorage can be obtained anywhere in Stanton Passage, but vessels should always have a second anchor ready as heavy squalls may arise suddenly. Squalls are especially common in the transition months between the NW and SE monsoons.

**Directions.**—The mariner must bear in mind that the charts, as far as the Sumatera coastline is concerned, may not accurately represent the contour off this coast. The mudbanks are continually changing, as are the shapes of the banks and the depths over the banks which lie in Selat Bangka. Vessels should determine their position mainly by landmarks on the Bangka side.

The tidal currents set strongly off the various points in the strait. None of these must be rounded closely.

During the rainy season, driftwood heavy enough to damage the bows of vessels is often met in the strait.

**Southward through Selat Bangka.**—A vessel which has passed Kepulauan Tujuh, located 45 miles NNE of the N entrance to Selat Bangka, can easily fix the position in clear weather by bearings on Menumbing, the light on Tanjung Ular, and other prominent landmarks on the N and NW coasts of Pulau Bangka.

Ordinarily the strait is entered by passing E of Karang Ular. In thick weather, however, frequently no land can be seen until the vessel is close off the entrance to the strait. In such cases, and for



vessels without radar, it is advisable to make for the Sumatera coast by sounding and follow the edge of the coastal bank, sounding continuously, in depths of 10 to 15m. Bearing in mind that the bank off Ujung Batakarang is extending E. The wrecks charted NW and SSW of Karang Ular must be avoided.

A vessel which has passed E of Karang Ular can steer SSE taking care to avoid the 11m patch 5 miles SSE of these rocks. When Menumbing is in line with the light structure on Tanjung Kelian, bearing 037°, a SE course should be steered, making due allowance for the tidal currents which set across the channel between Ujung Batakarang and Tanjung Limaubungkuk.

Care should be taken to avoid the dangerous wreck charted 4 miles SW of Tanjung Kelian and the 11.9m depths charted SSW and S of the wreck.

When **Menumbing** (2°01'S., 105°11'E.) bears 000°, steer an E course to pass S of Gosong Amelia and NE of the light situated N of Tanjung Selokan, bearing in mind the shoal patches which lie 4 miles NE of Tanjung Limaubungkuk. When past the light steer to pass midway between Tanjung Selokan and Pulau Pelepasan. Then steer SSE to pass midway between the mudbank off Tanjung Tapa and the buoy marking the shoals NW of Karang Tembaga, taking into account the 12.2m patch 2.5 miles ENE of Tanjung (Tapa) Tapa.

From Tanjung Tapa, continue on a SSE heading until about 4.3 miles W of Tanjung Lelari Light; then steer ESE and enter Stanton Passage. Pass N of Nemesis Bank, taking care to clear the 11.3m patch about 2 miles S of Tanjung Lelari. Maintain this heading until the light on Pulau Besar is abeam, and keep this course passing between Eastern Bank and Gosong Melvill.

When abeam Pulau Dapur, at the S entrance of Selat Bangka, set course as required, bearing in mind the wrecks and the 9.1m patch, which lie about 7 miles S of Pulau Dapur.

**Northward through Selat Bangka.**—When approaching the entrance to Selat Bangka from S, vessels will find it difficult to identify any of the landmarks shown on the chart except the summits of Gunung Muntzi, Gadang, and Gunung Namak, located close NNE of Tanjung Paku.

As soon as Gunung Namak is identified, it may be steered for on a NNE course, keeping clear of the dangers 7 miles S of Pulau Dapur, which have been previously discussed in [paragraph 2.14](#). Gunung Namak has been identified at a distance of 30 miles.

When 4 miles SSE of the light on Pulau Dapur, steer a WNW course for Stanton Passage and proceed following the directions given above, in reverse.

Lupipara Passage is unmarked and is not recommended.

## Sumatera—East Coast—Tanjung Kait to Tanjung Serdang

**2.17** The coast of Sumatera described in this sector trends S from Tanjung Kait, 75 miles, to **Tanjung Serdang** (4°27'S., 105°54'E.).

The 10m line lies as much as 18 miles offshore in places. A bank of drying soft mud, 0.5 miles wide in places, extends nearly the entire length of this coast except off the outlets of the rivers, and at other places marked by sandy beaches. Outside the mudbank the depths increase gradually, at times irregularly, seaward, and good anchorage can be taken almost

everywhere. The bottom usually found in depths suitable for anchoring is clay with a layer of mud.

Steep-to shoals of small extent, lie in various places as far as 16 miles from the coast. Off Tanjung Lumut, about 38 miles S of Tanjung Kait, shoals are found up to 35 miles seaward. Sounding gives little or no warning of approach to these shoals.

Several rivers discharge between Tanjung Kait and **Tanjung Lumut** (3°49'S., 105°57'E.); their mouths can generally be identified from a considerable distance, owing to the higher growth of trees there.

The Sungai Lumpur flows out about 17 miles S of Tanjung Kait; it is of some local importance, in that small vessels can enter and proceed over it and its tributaries to Palembang. Nipa palms growing on the broad mudbanks flanking the outlet are a mark for the river.

The channel between the mudbanks has a depth of 1.8m, and leads to depths of 4.8 to 8.8m inside, where the river is about 0.1 mile wide.

The bends inside the lower reach of the Sungai Lumpur are slight, but some miles upstream they become short and sharp.

Anchorage can be taken 8 miles off the mouth of the river in a depth of 4.8m, with the mouth of the river bearing 305°.

**Caution.**—Caution must be exercised as a mudbank, with a depth of 4.9m, lies on this bearing 14.5 miles from the river mouth.

Two small rivers flow into the sea by the way of outlets lying 5 miles and 7 miles NE of Sungai Lumpur. There are also other small rivers which flow into the sea between Sungai Lumpur and Tanjung Lumut.

Teluk Berugu is a shallow bay immediately NW of Tanjung Lumut. The shore of the bay is alternately sandy beach and swamp; boats can land on the sandy portions. Kuala Sondan, a creek in the S part of the bay, dries.

The coast trends about 21 miles SSW from Tanjung Lumut to Tanjung Pasir; this section of the coast is low.

**Air Mesuji** (4°10'S., 105°49'E.) flows into the sea close S of Tanjung Pasir. Tanjung Tawar, 1.8 miles S of Tanjung Pasir, forms the S entrance point of the river.

The least depth on the bar at the mouth of Air Mesuji is 1.5m soft mud. Within the entrance the depths vary from 9 to 11.9m and vessels with a length of 45m and a draft of 2.4m can easily reach a point 80 miles above the mouth, where the flood current is still noticeable.

Passage up the Air Mesuji should not be undertaken without local knowledge.

**Anchorage.**—Anchorage can be taken in a depth of 7m, 5 miles SE of the mouth of Air Mesuji, which will then be seen entirely open. The anchorage can be approached with the mouth of the river bearing 293°, until in a depth of 9m, then steer W to a position about 5 miles SE of the entrance.

**2.18 Tanjung Bubuayang** (4°23'S., 105°51'E.), the N entrance point of Wai Tulangbawang, is located 13 miles SSE of Tanjung Tawar. Tanjung Tmak, 2.5 miles farther S, is the S entrance point of the river.

From Tanjung Tmak the coast trends about 3 miles SE to Tanjung Serdang. A drying mud flat lies about 1 mile off the coast.

The Wai Tulangbawang, one of the largest rivers in the S part of Sumatera, has a bar across its mouth, with a depth of 1.2m; the rise of the tide is usually less than 1.5m.

Just within the entrance the depths are 11m and the width is less than 0.2 miles. The depths gradually decrease to 3.5m and the width to about 46m in a position about 60 miles upstream.

The approach to the river is marked by two beacons. One lies 3 miles NE of Tanjung Tmak, and another stands on the inside of the bar 0.9 miles NE of Tanjung Tmak.

Anchorage may be obtained off the mouth of Wai Tulangbawang, N of the banks which extend from the coast NE of Tanjung Serdang. The anchorage should be approached from the E on the parallel of latitude 4°15'S.

Vessels coming from the S should stay in depths of not less than 16m until this parallel is reached. When Tanjung Serdang bears 225° care must be taken to be in no less than 13m. In this position portions of the land will become visible.

The high trees between the mouths of Wai Tulangbawang and Air Mesugi are the first landmarks to be sighted. The S end of these trees and the trees on Tanjung Pasir are good landmarks. When Tanjung Bubuayang bears 202°, and the depths decrease to 9m, course should be altered to 180° and anchorage taken when the same point bears 225°, in depths of 6 to 7m.

Vessels capable of proceeding over the bar across the entrance to the river should not proceed without local knowledge.

**2.19 Off-lying banks.—Beting Menjangan Bank** (3°47'S., 106°12'E.), 15 miles ENE of Tanjung Lumut, with a least depth of 5.5m, is the SE extremity of the bank which extends from the coast N of that point. It has a hard bottom of sand and mud and soundings give little or no advance warning.

The tops of the highest trees on Tanjung Lumut are generally just visible from the bank, but as the recommended route for deep draft vessels lies E of this shoal, these trees should not be sighted.

**Five Fathom Banks** (3°48'S., 106°28'E.) occupy a circular area about 8 miles in diameter, centered in a position about 31 miles E of Tanjung Lumut. The least depth over these patches of hard sand and mud is 6.8m.

Vessels of deep draft should pass E of these banks. Two wrecks with masts visible lie NW of Five Fathom Banks, approximately 11.5 miles NE and ENE of Beting Mangang Bank. Dangerous wrecks lie within 30 miles NE, E, and S of the Five Fathom Banks.

**Four Fathom Banks** (4°13'S., 106°12'E.), consisting of a number of patches of mud and sand, with a least depth of 7.3m, lie about 23 miles E of the mouth of Air Mesugi.

**Intan Oil Field** (4°34'S., 106°39'E.) lies 32 miles SE of Four Fathom Banks, and Widuri Terminal is situated 6 miles S of Intan. A submarine pipeline is connected between the two oil fields. Numerous wrecks and obstructions lie within the range of 20 miles from the terminals.

**Widuri Marine Terminal** (4°41'S., 106°39'E.) consists of 2 SBMs and Maxis Widuri a storage tanker for the loading of crude oil. The terminal is approached from the SE by an unmarked channel, that leads to an anchorage area in depths of about 20m, situated 2 miles SE of the storage tanker.

Vessels between 20,000 and 175,000 dwt displacement may use No.1 SBM, moored NE of the storage tanker and No. 2 SBM, to the SW. The terminal operates 24 hours; the vessel's ETA should be sent 72 hours, 48 hours, 24 hours, 12 hours, and

4 hours in advance or any time a change of 1 hour in the original ETA occurs. Berthing is limited to daylight hours only, and is subject to weather conditions and storage containment. Unberthing can be done at any time. The mooring master boards in the anchorage area.

A submarine pipeline leads 35 miles SSW to **Zelda Oil Field** (5°11'S., 106°23'E.). From Zelda, the pipeline leads 17 miles SSW to Cinta Terminal.

## Bangka—Northwest and North Coasts

**2.20** The coast of Bangka trends about 38 miles NE from Tanjung Ular to Tanjung Melala and then 19 miles E to Tanjung Samak, the NE extremity of Bangka.

Two large bays, Teluk Kampa (Teluk Bulu) and Teluk Klabat, indent this section. Teluk Kampa is entered E of Tanjung Biat, and Teluk Klabat is entered close E of Tanjung Melala.

**Tanjung Biat** (1°56'S., 105°09'E.) is located 2.8 miles NE of Tanjung Ular. The coast for 7 miles E of Tanjung Biat is rocky, then as far as Tanjung Genting is mainly sandy. It is muddy at the mouths of Sungai Bulu and Sungai Kampa, 5 and 6 miles, respectively, SE of Tanjung Genting.

The coast is fringed by a costal bank which dries, extending as much as 1 mile offshore in places, and having numerous rocks on it.

**Karang Sebidung Uma** (1°56'S., 105°08'E.), 2 miles N of Tanjung Ular, is a steep-to reef with some rocks awash on it. The reef is not marked by discoloration, and soundings give no warning of approaching it. A shoal with a depth of 3.2m lies 1 mile N of the reef. A 5m shoal, lies 2 miles NNW of Tanjung Biat. Kamudi, a rock which almost dries at low water, lies 5 miles SSE of Tanjung Genting, 2 miles offshore.

**2.21 Jebus** (1°45'S., 105°27'E.) ([World Port Index No. 50160](#)), the center of a tin mining district, is situated 3 miles inland on Sungai Jebus, a tributary of the Sungai Kampa; only flat-bottomed craft can proceed upriver to Jebus.

Anchorage can be taken, in a depth of 9m, soft mud, with Tanjung Genting bearing 018°, 1.5 miles distant, and the mouth of Sungai Bulu bearing 098°. There is a 5.5m patch located E of the anchorage.

**Tanjung Genting** (1°42'S., 105°19'E.) is a rocky point. Numerous rocks rise from the coastal bank, which extends a short way from the point. A steep-to shoal, with a depth of 1.5m, lies 0.8 mile to the NW. A shoal 3 miles in extent, not marked by discoloration, lies in the NE part of Teluk (Kampa) Bulu, with a shallow spot of 4.8m lying 5 miles S of Tanjung Genting.

From Tanjung Genting to Tanjung Melala, the coast trends in a NE direction. There are several coves and bays, of no particular importance, on this coast. The most prominent points are Tanjung Lesum, Tanjung Pemuda, and Tanjung Kelayang, located 3.5 miles NNE, 6.8 miles NNE, and 11 miles NE, respectively, from Tanjung Genting.

Within this part of the coast are three prominent hills, which from 20 miles offshore appear as islands. Gunung Mempari, 235m high, the farthest S of these hills, lies 4 miles E of Tanjung Genting.

Gunung Penyabung, 223m high, is located 2.8 miles NW of Gunung Mempari, close S of Tanjung Lesum. Gunung Besukan (Gunung Pesukan), 209m high, is located 3.8 miles NNE of Gunung Mempari.

Gunung Ganten, 176m high, 6.5 miles ENE of Gunung Mempari, is noticeable from a short distance only.

**2.22 Pulau Pemuja** (1°36'S., 105°23'E.) lies on the coastal bank, close N of Tanjung Pemuja. Pulau Perut is located 0.5 mile offshore close W of Tanjung Kelayang.

There are rocks and a wreck 1.5 miles offshore between Pulau Pemuja and Pulau Perut. There are other rocks charted 1 mile W, and 1 mile and 1.8 miles N of Pulau Perut.

Malang Iyu consists of two rocks, awash, lying close to each other in a position 2.8 miles N of Tanjung Kelayang. Malang Doyang, 4 miles ENE of Malang Iyu, is a conspicuous, grayish-yellow rock which resembles a vessel floating bottom up. A coral reef, with a depth of 0.9m, lies 1 mile S of Malang Doyang. A 5.9m depth lies 1 mile farther S.

Malang Guntur, located 2.5 miles NW of Tanjung Melala, consists of several rocky heads, awash, and one above-water. A 4.8m depth lies 2.8 miles NE of Malang Guntur and a 10m patch lies 0.5 mile farther NE.

Vessels proceeding along this coast should keep outside a depth of 20m.

Teluk Klabat is entered between Tanjung Melala and Tanjung Penyusu, located 6 miles to the E. The bay, which indents the N coast of Bangka a distance of 17 miles, is divided into an outer and inner bay by Tanjung Rau (Ruh), which lies 7 miles S of Tanjung Penyusu.

The greater part of the outer bay is occupied by a mud flat, with depths of less than 2m, and numerous above and below-water rocks, leaving a channel along the E side with steep-to banks.

The shores of the outer bay consist mainly of sandy beaches with large blocks of granite and a drying reef which extends as much as 0.8 mile from the W shore.

The head of the inner bay is bordered by a mudbank, with trees on them standing in the water at high tide.

Several rivers discharge into this bay; the largest, Sungai Layang, flows into the SE corner.

Tanjung Melala, the W entrance point to Teluk Klabat, is a rocky point. A useful mark for the point is Bukit Melala, 106m high, on the W side of the point.

A wreck lies 1.5 miles ENE of Tanjung Melala. Numerous above-water rocks lie within 1.3 miles of Tanjung Melala and should be given a wide berth.

Tanjung Penyusu, the E entrance point of the bay is a low point, from which a spit with depths of 2.4m or less, extends 2 miles W and WNW. Pulau Penyusu, a low islet, is located on this spit, 0.8 mile W of Tanjung Penyusu.

A light, shown from a white iron framework structure 20m high, stands on the island.

Anchorage may be obtained N of Teluk Klabat in a depth of 13m with Pulau Penyusu light bearing 110° at 3 miles.

Maras Range, previously described in [paragraph 2.5](#), located at the head of the bay, rises in the midst of a waste and almost impenetrable district.

A narrow channel trends along the E side of Teluk Klabat; vessels of moderate draft and with local knowledge can

proceed through this channel to a roadstead near the entrance to the inner bay. The least depth in the fairway is 5.6m, near its N entrance. The bottom of the channel is formed of granite in places, and the W side is formed by a ridge of hard sand that has drying patches. The channel is marked by buoys, odd numbered on the W side and even numbered on the E.

Dangers in the approach are Karang Trasi Laut, with a least depth of 0.5m and Karang Trasi Darat, with a least depth of 1.5m located 2.8 miles NNW of Pulau Penyusu light. These dangers are not marked by discoloration.

A drying rock is located 0.8 mile W of Pulau Penyusu on the drying spit, and a rocky shoal with a least depth of 2m, is located 0.8 mile farther W. The W side of the shoal is steep-to. The chart is the most concise guide to the numerous rocks, shoals, and islets in the bay.

**2.23 Blinyu** (Belinyu) (1°38'S., 105°47'E.) ([World Port Index No. 50180](#)) is the capital of the mining district of the same name. The town is situated on the Sungai Belinyu about 1.5 miles inland.

The entrance to the inner harbor and anchorage of Belinyu is between Tanjung Rau and Tanjung Mantong (Mantun) the E entrance point, located 1 mile NE of Tanjung Rau. Batu Merlang, an above-water rock, is on the E side of the entrance to the inner bay, 0.6 mile ENE of Tanjung Rau.

A rock awash lies 0.2 mile NW of Batu Merlang and there are several other rocks off the E side of the channel.

Anchoring with enough room to swing, can be obtained S of Tanjung Rau in depths of 5 to 11m. Vessels wishing to unload by praus can anchor in a depth of 15m, mud and sand, with Batu Merlang bearing 000° and Tanjung Rau bearing 300°.

Vessels are cautioned not to anchor in an area bound N by a line drawn in a 031° direction from Tanjung Rau to the N extremity of Tanjung Mantun, and S by a line drawn in a 050° direction from Tanjung Rau to the root of the pier S of Tanjung Mantun. Two cables cross the channel in this vicinity.

**Tides—Currents.**—Tidal currents in Teluk Klabat, in general, follow the deep channel, but at Tanjung Mantun, the flood current sets into the E shore and the ebb current into the W shore. The currents change direction at approximately the times of high and low water. Both currents are strong at springs, especially in the narrow passage between Tanjung Rau and Tanjung Mantun, where a maximum rate of 3 knots has been observed.

Several islands are located in the S part of the inner harbor. Their position may be seen on the chart.

The N coast of Bangka between Tanjung Penyusu and Tanjung Mengkudu, a rocky point 11 miles E, is fronted by a sandy beach. Several rocks lie close off the W part of this coast. Pulau Mengkudu is the largest of two islets which lie 0.5 mile N of Tanjung Mengkudu.

There are two villages on this coast visible from seaward. They are situated 4.5 miles and 8 miles E of Tanjung Penyusu.

A dangerous shoal, with a depth of 5.4m, lies 2.5 miles offshore, 4.3 miles W of Pulau Mengkudu.

**Tanjung Grasak** (Samak) (1°30'S., 105°55'E.), a rocky point 2 miles E of Tanjung Mengkudu, is the N extremity of Pulau Bangka.

## Islands North of Pulau Bangka

**2.24 Pulau-pulau Tuju** (Tudju Eilandan) (Kepulauan Tuju) (1°13'S., 105°16'E.) lies N of Bangka in the NE approach to Selat Bangka. The S island is 26 miles N of Tanjung Genting. The island group is generally visible at a distance of 25 to 30 miles. The islands are occasionally visited by coasters and praus. Passage between the islands, for vessels of shallow draft, is for the most part safe, but caution is necessary as the islets are fringed by reefs and the shoals are not generally marked by discoloration.

Pulau Penyanan (Pulau Penjaman) the S island of the group, is 95m high. Depths of less than 10m extend 1 mile S of the island; an area of discolored water lies with its center 1.5 miles SE of Pulau Penjanan.

Pulau Keliling, an inhabited islet covered with coconut trees, is about 1 mile NNW of Pulau Penjanan. Depths of less than 10m extend 3.3 miles ENE of the islet.

Pulau Lalang lies 1.8 miles NNW of Pulau Keliling and Pulau Yu, lying nearly 2 miles NW of Pulau Lalang, attains a height of 36m.

Pulau Cebia (Tjebia), about 3 miles N of Pulau Penjanan, has a peak 108m high; a reef surrounds the island.

**Pulau Pekacang** (Pekatang) (1°10'S., 105°18'E.), the largest and NE island of the group, rises to an elevation of 170m.

Off the SE extremity of the island, the reef border is 0.5 mile wide; several small islets are on the reef, with elevations up to 50m.

Pulau Tokong Kembang, a small islet attaining a height of 54m, lies 2.5 miles NW of Pulau Pekatang. There is a rock 10m high, surrounded by a reef, 0.8 mile NW of Pulau Tokong Kembang.

Observations of the tidal currents have been made in a position 13 miles SSW of Kepulauan Tujuh. In this position, the currents run NE and SW and are mainly diurnal. The maximum rate of the current running NE can be expected to average about 1 knot in June and July, and also in December and January.

The maximum rate of the current running SW can be expected to average 1.25 knots from November to January, and from May to July. In addition to the currents setting NE and SW, a current setting across these directions, with a maximum rate of 1.25 knots, has been observed.

Tide rips and strong whirlpools have often been observed SW of Pulau Cebia.

**Pulau Dokan** (0°58'S., 105°39'E.), an islet 24 miles ENE of Pulau Pekatang, is 118m high; it is visible from 32 to 36 miles in clear weather.

A hill on the islet appears pointed when seen from the N but appears rounded when seen from the E. It is surrounded by a reef which extends 1 mile from its N side, with some above and below-water rocks on it. An islet 30m high is located close N of Pulau Dokan. A detached reef, with a least depth of 0.4m, extends 1.5 miles S from Pulau Dokan.

Pulau Toty, 7.5 miles ENE of Pulau Dokan, is 113m high; its summit appears rounded when seen from the N and pointed when seen from the E. The islet is surrounded by a reef which extends 0.5 mile NW and 0.3 mile SE.

The channel between Pulau Dokan and Pulau Toty is clear. The reefs around these islands are not marked by discoloration.

## Pulau Bangka—Northeast Coast

**2.25** The NE coast of Pulau Bangka is about 86 miles long between Tanjung Samak, the N extremity of the island and Tanjung Berikat, the E extremity. This section of the coast is low and wooded with a few low hills near the waters edge. The inland mountains however, are visible a considerable distance from seaward. A few small rivers flow out here.

A great number of islets, banks, and reefs lie off the coast, up to a distance of 30 miles. There are two safe, buoyed channels, leading between these offshore formations to Pangkalpinang. No vessel should attempt to proceed between these reefs by any other route.

A number of new dangers were found during the last survey of these waters, and even the most accurate survey does not exclude the possibility of the existence of further dangers.

The reefs are all steep-to, and owing to the somewhat troubled water, are only slightly marked by discoloration in the most favorable circumstances. Soundings do not give adequate guidance to the existence of these off-shore dangers.

Note that only the islets and reefs near the channels mentioned above are described. The chart should be studied for other formations.

In fixing position by bearings, it should be kept in mind that muddy points and islets may have worked out E since the last survey.

**Tanjung Ponggul** (Tuing) (1°37'S., 106°03'E.), which exhibits a light from a 12m white structure, is a high, rocky point located 11 miles SE of Tanjung Samak. This section off the coast is high and rocky, with an occasional sandy beach.

Bukit Tuing is a 249m hill, located close NW of Tanjung Ponggul. Tanjung Layang is a rocky point with a low ridge of hills on it, which slopes gradually down to the point and terminates in a flat point. Layang is situated 12 miles SSE of Tanjung Tuing. The intervening coast is indented by small bays.

Tanjung (Raja) Raya is located 7 miles SSE of Tanjung Layang. It is a prominent point marked by a conspicuous white tower, rising close within to Raya, a conical hill 199m high. Sungai Liat flows out 1.5 miles SSW of Tanjung Layang, and the roadstead is off its mouth.

There are several prominent landmarks along this coast in addition to Maras Range. Bukit Besar, 218m high, is a conical mountain with a rounded summit, which appears as a sharp peak when seen from N or S; there is a lower ridge of hills on its SW side.

Bukit Besar is located 15 miles SSE of Tanjung Samak. Bukit Pandjar, 257m high, is located 5 miles SSE of Bukit Besar.

Bukit Betong, 5 miles W of Raya, has a flat summit 235m high, but is not prominent. Puak, 1.5 miles WSW of Raya, is 307m high. It is steep on its E side and its sharp summit is prominent.

The coastal waters from Tanjung Samak SSE to Tanjung Raya are encumbered with several islets and reefs which lie inside the 9.1m line; this line extends 7 miles offshore in the vicinity of Tanjung Raya.

A shoal patch with a depth of 2.2m and a drying rock lie 2 miles E and 3 miles ESE, respectively, of Tanjung Samak.

**2.26 Karang Laut** (Liat) (1°50'S., 106°10'E.), 3 miles ESE of Tanjung Layang, has two rocks awash on it. An obstruction exists 2.5 miles E of the same point.

Shoal patches with depths of 2.4m and 4.9m lie, respectively, 1.5 miles and 2.5 miles SE of Tanjung Layang. A 4.5m patch is located 3 miles ESE of Karang Liat.

A depth of 10.5m was reported to exist 14 miles E of Tanjung Layang.

Karang Timur Laut, a coral patch with a least depth of 5.8m, lies 7 miles SE of Tanjung Layang.

**Off-lying reefs.—Severn Shoal** (1°37'S., 106°31'E.) lies 27 miles E of Tanjung Ponggul and consists of coral with a depth of 3m. Sounding gives no warning of this reef, but in fine weather, Bukit Tuing and the summit of Raya are visible from this vicinity.

**Iwan Reef** (1°40'S., 106°18'E.), a coral reef with a depth of 3m, is steep-to and lies 15 miles ESE of Tanjung Tuing. The Bangka coast can generally be seen from near this reef. A 5m shoal exists about 3.8 miles SE of Iwan Reef.

Karang Laut, with a depth of 7m, is located 5 miles ENE of Tanjung Layang.

The coast between Tanjung Raya and **Tanjung Lanka** (Tanjung Langka) (2°28'S., 106°27'E.), 37 miles SSE, is low with occasional rocky points and sandy beaches. The coast between Tanjung Langka and Tanjung Berikat, 25 miles ESE, is low and swampy in places.

**Tanjung Bunga** (2°08'S., 106°11'E.), a projecting point about 13.5 miles S of Tanjung Raya, is conspicuous. The Sungai Baturusa flows into the sea 3.3 miles N of Tanjung Bunga.

Tanjung Udang, a high rocky point 4 miles SSE of Tanjung Bunga, is the end of a spur of the range that extends SW. Tanjung Lempuyang is a rocky point about 3 miles S of Tanjung Udang. Tanjung Pinyak, a point 11 miles SSE of Tanjung Lempuyang, has a village near it.

Tanjung Langka is located 9 miles SE of Tanjung Penyak. Sungai Koba flows into the sea by way of an outlet 2.5 miles W of Tanjung Langka.

**2.27 Gunung Mangol** (Gunung Mangkol) (2°14'S., 106°06'E.), 420m high, is the highest and most prominent summit of a range of mountains located 7 miles inland, in a WNW direction from Tanjung Lempuyang. Gunung Pau, 280m high, is located at the N end of the mountain range 3.5 miles N of Gunung (Mangkol) Mangol. Bukit Lali, 4.8 miles NE of Gunung (Mangkol) Mangol, is 200m high. A television tower was reported to stand on Gunung (Mangkol) Mangol.

The coastal waters from Tanjung Raya SE to Tanjung Langka are fronted by numerous reefs and islets. The 9.1m line extends up to 16 miles offshore E of Tanjung Lempuyang.

**Karang Pedis Selatan** (1°53'S., 106°15'E.), a coral head with a depth of 2m lies 3.5 miles E of Tanjung Raya.

It is marked on its SE side by a lighted buoy. Another coral patch, with a depth of 5.5m, lies 1 mile N of Karang Pedis Selatan. Karang Fokke, a reef which dries, lies 2 miles SW of Karang Pedis Salatan.

There are some above-water rocks located about 0.8 mile SW of Karang Fokke, which are sometimes visible from a distance of 5 miles.

A reef consisting of coral and stone, with a depth of 1.8m, lies 10 miles ESE of Tanjung Raya. A drying reef lies 5 miles

SSE of Tanjung Raya and a drying reef lies 5 miles NE of the mouth of Sungai Baturusa.

**Karang Elliot** (Elliot Reef) (2°04'S., 106°19'E.), which dries, is located 9 miles NE of Tanjung Bunga. A light, shown from a red metal framework tower, with white bands, 13m high and equipped with a radar reflector, is situated on the S extremity of the reef.

Several shallow patches with depths of less than 4.8m lie within 1.5 miles of the light. Karang Palmer (Palmer Reef), a group of coral heads, which has one head awash, lies 7 miles NE of Karang Elliot. Karang Miang, which dries and is marked by a light from which a racon transmits, lies 2 miles SW of the light.

**Pulau Panjang** (2°09'S., 106°16'E.), 5.5 miles ESE of Tanjung Bunga, is one of several islets that lie off this coast. Pulau Panjang and Pulau Bujur, 1.5 miles to the E, are covered with palms and lies on extensive drying coral reefs.

Karang Gading, a drying coral reef, is located 3.5 miles NE of Pulau Panjang. A patch with a depth of 3.4m lies 1.8 miles WSW of Pulau Panjang. Foul ground extends SSE from Karang Gading for 8 miles to the E side of Gosong Asam, an extensive drying reef with two islets on it.

Pulau Bebuar, 12.5 miles SE of Pulau Panjang, is a sandy islet covered with tall trees, and is surrounded by an extensive reef which dries; foul ground extends 2.8 miles WSW, 2 miles E, and 3.5 miles NE from the islet. Pulau Bebuar was reported to lie 1.8 miles S of its charted position. A lighted beacon is situated on the islet.

Horse Reef, 4 miles E of Pulau Bebuar, is on the SW edge of a foul area which extends 3 miles NE from this reef. A reef, with a depth of 2.1m, lies 2.8 miles SSE of Horse Reef.

Pulau Ketawi, 7 miles SSE of Pulau Panjang, is covered with coconut palms. Drying reefs lie 2 and 2.8 miles NW of Pulau Ketawi.

**2.28 Karang Hidrograf Barat** (West Hydrograff) (1°56'S., 106°25'E.), with a depth of 3.4m, lies 14 miles E of Tanjung Raya (Tanjung Raja) and is one of the outer dangers along this coast.

A 10.5m shallow spot has been reported to lie 8 miles NNW of the coast. Karang Hidrograf Timur (East Hydrograff) lies 9.3 miles SE of Karang Hidrograf Barat, is marked by a light, and has a depth of 0.3m.

Karang Noordziek, a reef with a rock awash, lies 1.5 miles SW of Karang Hidrograf Timur and Keuchenius, 5 miles ESE of Karang Hidrograf Timur (East Hydrograff), has a depth of 7.9m.

**Karang Smit van de Broecke** (2°04'S., 106°32'E.), has a least depth of 4m, located 3.5 miles SSW of Karang Hidrograf Timur. A 5.5m patch lies 1 mile W of Karang Smit van de Broecke.

Karang Diederika (Jederika), a group of rocks with one rock which breaks, is located 7 miles W of Karang Smit van de Broecke.

A patch of coral and stone, with a depth of 1.8m, lies 1 mile ENE of this danger. There is a coral patch, with a depth of 3.5m, lies 3.8 miles NE of Karang Diederika.

Karang Lombok Barat (West Lombok Reef), 7 miles SW of Karang Smit van de Broeckem has a depth of 5m; a 6m patch lies 2.8 miles E of this reef.



Karang-karang Lombok (Lombok Reef) consisting of three shallow patches with depths of 3, 2.5, and 4m, lie respectively, 7 miles ENE, and 7 and 8 miles ESE of Karang Lombok Barat.

**Goat Reef** (2°12'S., 106°29'E.), with a depth of 0.9m, lies 6 miles SE of West Lombok. The shallow ground extending NE from Pulau Bebuar extends to a position 1.3 miles S of this reef. Scotia Reef, with a depth of 4.9m, lies 6.5 miles ESE of Goat Reef.

**Karang Von Sittard** (2°12'S., 106°45'E.), the SE of the outer dangers, lies 25 miles NE of Tanjung Langka, is marked by a light, and has a depth of 2.4m. A depth of 8.5m was reported to lie 7 miles SW of Von Sittard Reef.

A coral reef with a least depth of 5.5m was reported to lie 5.5 miles N of Van Sittard Reef and a shoal with a depth of 0.4m was reported to lie 5 miles farther N.

There are several reefs which front the coast in the vicinity of Tanjung Langka; from W to E the largest are, Karang Perlang, 1.5 miles NE of Tanjung Langka, and Karang Timor, 5.5 miles E of the same point. A light shown from a white beacon stands on Karang Perlang.

**2.29 Sungai Liat** (1°51'S., 106°06'E.), the headquarters of the district, is situated on the W bank of the river, 2 miles within its entrance. The town can only be reached by small craft at high water. The channel to the river runs between numerous rocks and is constantly shifting.

Anchorage is available about 1 mile off Sungai Liat in a depth of 7m, with Gunung Tuing in line with the outer rocks off Tanjung Liat bearing 337°.

Vessels bound for Sungai Baturusa from the Sungai Liat anchorage should pass N of the buoy, as described above. When Tanjung Raya bears 180° it should be brought ahead. Steer on that course until W of Karang Timur Laut, when course should be altered to SSE to pass midway between Pedis Selatan and Fokke.

From this position bring Karang Elliot light structure ahead bearing 156°. Steer this course until Gunung Pau bears 230°, then steer 230° and proceed to the anchorage 3.5 miles E of the mouth of Sungai Baturusa.

**Anchorage.**—In calm weather during the Southeast Monsoon, between May and October, anchorage may be obtained by vessels with local knowledge in a depth of 6m, mud, with the N entrance point of Sungai Baturusa bearing 270° and the NE extremity of Pulau Panjang bearing 135°.

During the Northwest Monsoon, between November and April, there is sheltered anchorage S of Pulau Panjang, in a depth of 5m, mud and sand, with Bukit Lali bearing 254° and the E extremity Pulau Panjang bearing 005°.

Vessels, when coming from N, steer to pass 7 miles E of Tanjung Raya, and when that point bears 270°, steer for the light structure on Karang Elliot and then follow the channel from Sungai Liat to the desired anchorage.

**Directions.**—When making for the anchorage off Sungai Liat, vessels from the N do not pass less than 2.5 miles E of Tanjung Layang, because of the dangers lying off that point.

**2.30 Pangkalpinang** (Pangkalbalam) (2°07'S., 106°07'E.) (World Port Index No. 50210) is situated about 3.5 miles inland on a small tributary of Sungai Baturusa. The administrator of Pulau Bangka and Pulau Belitung is situated

here. There was a depth of 0.4m on the bar off the mouth of Sungai Baturusa.

Range lights situated on the S side of the river entrance in line 284° lead into the river. No pilots are available and entry over the bar is limited to vessels with a maximum draft of 2.4m in daylight only.

There is a Harbormaster, Customs Officer, Immigration Officer, and a Port Medical Officer here.

**Directions.**—The inshore route from Sungai Baturusa to Koba is only suitable for vessels of fairly light draft. It was reported that a vessel with a draft of 6.4m passed inside the reef in both directions at about the time of high water, following the directions given here.

From the anchorage off the entrance to Sungai Baturusa, steer SSE to pass W of the beacon situated about 2.8 miles SSE. When past the beacon, steer to bring the beacon and the NE slope of the hill Sambongiri in line astern bearing 325°, which leads SW of Pulau Panjang, in a least depth of 4.9m. Steer course 145° until the E extremity of Pulau Panjang bears 000° when course 180° should be steered, passing W of the beacon marking a reef located 3 miles NW of Pulau Ketawi. Give this beacon a good berth as the reef projects some distance NW of it.

When Tanjung Bunga bears 322°, steer course 142°, bringing this point astern. Care must be taken to avoid the fishing stakes in the channel situated 3 miles S and 2 miles SSW of Pulau Ketawi. When Gunung Mangol bears 287° steer for the anchorage off Koba or for Selat Gelasa as desired.

**2.31 Koba** (2°29'S., 106°25'E.) (World Port Index No. 50230) is situated on the E side of the Sungai Koba, a short distance within its entrance. The Harbormaster is also the Customs Officer. The usual landing place, marked by a flagstaff, is 0.5 mile E of mouth of Sungai Koba.

Anchorage during the Southwest Monsoon may be taken outside the reef about 3 miles NW of Tanjung Langka, in a depth of 6m, mud bottom.

The most direct route from Selat Gelasa to Pangkalpinang, according to the chart, trends generally NW between the reefs and islets, from the vicinity of Tanjung Berikat toward Karang Elliot, and then W and SW to the anchorage.

The initial course is 312° for the hill Puak. This course leads NE of the foul ground extending NE of Horse Reef. Care must be taken to clear Goat Reef and West Lombok, which lie near this track.

The passages described above are only for those vessels with local knowledge.

**Tides—Currents.**—Currents off the NE coast of Bangka originate both as tidal and monsoon drift phenomena. They are variable, particularly along the outer edge of the reefs and in the open sea, so that no reliance can be placed on positions determined by dead reckoning. Off Tanjung Berikat the monsoon drift may attain a considerable rate.

## Selat Gelasa and Approaches

**2.32 Selat Gelasa**, the strait between Bangka and Belitung, is divided by several small islands into three principal passages, which from W to E are named Selat Leplia (Selat

Macclesfield), Selat Limende (Selat Clement), and Selat Baur (Selat Stolze).

Selat Gelasa is considered neither as safe nor as well lighted as Selat Bangka, but is frequently used by vessels proceeding from Selat Sunda to Singapore or from the W part of Jawa to the China Sea.

Selat Baur is the broadest of the channels apart from the rock awash W of Teree Reefs, there is no known dangers in the fairway. It is the most preferred channel, but vessels of low power should use Selat Leplia during the NW monsoon and Selat Baur during the SE monsoon, as the currents are more favorable. Selat Limende is seldom used.

The drying reefs, when covered, are nearly always discernible by the brown or green color of the water. The other reefs are usually difficult to see, as the water in the strait is somewhat muddy, and they are only recognizable when current and wind cause tide-rips and surf. Large brown patches of fish spawn, often seen in and near the strait, may be mistaken for the discoloration of reefs.

**Caution.**—Reports indicate that the existence of uncharted coral heads in the area N of Selat Gelasa is likely.

**Winds—Weather.**—In Selat Gelasa, light variable winds prevail in April and November. The SE monsoon prevails from May to October and the NW monsoon from December to March. WNW winds predominate in December veering to NW in January with increasing force and consistency, persisting to March.

Squalls are most frequent in November and December. A moderate swell develops during NW monsoon in January and February.

**Tides—Currents.**—The currents in Selat Gelasa set SE in the NW monsoon and NW in the SE monsoon. There is little information on rates, but it is probable that the currents occasionally exceed 3 knots in some of the narrower passages.

The tidal currents are strong in the three straits, but their directions are somewhat difficult to foretell. The following information, obtained near **Pulau Langkuas** (2°32'S., 107°37'E.), applies to Selat Leplia and Selat Limende only. The directions of the tidal currents perform a complete circle clockwise, in one lunar day. The maximum rate always occurs twice each day, when the currents run either in a NNE or a SSW direction. The currents which run ESE or WNW are about half the maximum rate.

**Pilotage.**—Pilots can be obtained at **Tanjungpandan** (2°45'S., 107°38'E.), on the W coast of Belitung. Vessels without local knowledge visiting any of the islands in the strait are always advised to employ a pilot.

**2.33 Karang Celestial** (1°13'S., 106°47'E.), with a depth of less than 2m, is the farthest E of the group, lying 17 miles ESE of Enslie Reef. Numerous shallow reefs, with depths ranging from 0.9 to 8.8m lie between Enslie Reef and Karang Celestial. These may best be seen on the chart. A shoal depth of 11.9m was reported 20.5 miles E of Karang Celestial.

**Caution.**—Between latitude 1°04'S, 1°14'S, and longitude 106°30'E, 106°48'E, in the NW approach to Selat Gelasa, there is a group of small steep-to reefs not marked by discoloration.

**Enslie Reef** (1°07'S., 106°31'E.), the westernmost of these, lies 43 miles NE of Tanjung Samak and has a depth of 9m.

## Islands North of Selat Gelasa

**2.34 Karang Lanrick** (1°53'S., 106°57'E.), with a depth of 2.5m, is located 42 miles N of Tanjung Berikat.

The reef is not marked by discoloration or ripples. A reef with a least depth of 4m lies about 36 miles ENE of Karang Lanrick. A shoal, with a depth of 14.1m, was reported to lie 7.5 miles NW of the 4m shoal.

Karang Magdalena, a steep-to reef, not marked by discoloration or ripples, about 9 miles SSE of Karang Lanrick, has a depth of 4m. A depth of 12.8m was reported to lie about 33 miles NE of Karang Magdalene.

Karang Belvedere, 10 miles S of Karang Magdalena, is a black rock 3m high surrounded by a coral reef. Karang Teree, 2 miles S of Karang Belvedere, is a drying bank with some rocks on it and is surrounded by a coral reef which extends 0.2 mile from the drying portion. Karang Tiung, which is awash, lies 2 miles SW of Karang Teree, and is barely visible.

**Pulau Gelasa** (2°25'S., 107°04'E.), 16.5 miles NE of Tanjung Berikat, may be seen in clear weather from a distance of 30 miles. It is a thickly wooded island with a sharp summit 236m high and is surrounded by a coral reef. Batu Gelasa, 1 mile W of Pulau Gelasa, is a bare rock 8m high.

Warren Hasting Reefs consist of a group of six coral patches with reported depths from less than 2 to 4.9m. They are reported to be barely visible. The SW patch, which is awash, lies 8.5 miles WNW of Pulau Gelasa.

Karang Caning, 10 miles ENE of Pulau Gelasa, has a least depth of 5m coral. The rock is steep-to and is not marked by discoloration or ripples.

**Pulau Berikat** (Boompjes Island) (2°28'S., 106°58'E.) lies about 10 miles NE of Tanjung Berikat. It is a bare rock 11m high, surrounded by a coral reef which extends 0.5 mile off its SE side. The island has been reported to be a good radar target at a distance of 20 miles.

**Caution.**—It has been reported that Pulau Gelasa may lie up to 1 mile E of its charted position.

## Selat Gelasa—West Side

**2.35 Tanjung Berikat** (2°34'S., 106°51'E.), the E extremity of Pulau Bangka, may be identified by Berikat, a hill 119m high, located 0.8 mile SW of the point.

A light is shown from Tanjung Berikat. Telok Batu, 4.3 miles WSW of Tanjung Berikat and Gunung Sapat, 199m high, 5.8 miles farther WSW, are isolated peaks which are an E continuation of the Pegunungan Pading.

Between Tanjung Berikat and Tanjung Ru, 27 miles SSW, is a wide bay frequented by coasters and praus, in which the depths are reported to be mostly less than 5m, soft mud.

The 11m line extends in a SSE direction for 27 miles to the SE extremity of Pulau Lepar, an island which forms the S side of the bay. There are several islets located inside the 11m line.

The most prominent are Pulau Kelapan, 96m high, which lies 2.5 miles NNE of the N extremity of Pulau Lepar and Pulau Tinggi, which lies 0.8 mile SSW of the W extremity of Pulau Lepar.

Pulau Tinggi, which lies in the strait that separates Pulau Bangka and Pulau Lepar, has a conical hill which is prominent when seen from the SSE.

The shore of the bay N of Pulau Lepar is low and has stretches at sandy beach broken by areas overgrown with mangroves.

The E shore of Bangka trends 4.5 miles S from Tanjung Ru to Tanjung Baginda and then 14 miles W to Tanjung Paku. The coast between Tanjung Baginda and Tanjung Paku consists mainly of rocky points with low coastal land, covered with tall trees, between them.

Tanjung Baginda is a steep point, 119m high. Baginda, a hill 118m high, is located 2 miles WNW of the point. Tanjung Dua and Tanjung Bantil, respectively, 5 miles and 11.3 miles W of Tanjung Baginda, are both fairly high.

## Islands South of Selat Gelasa

**2.36** Numerous dangers, with depths of from 13 to 18m between them, and dangerous wrecks lie in the S approach to Selat Gelasa. These dangers are described from N to S.

**Pulau Simedang** (3°19'S., 107°12'E.) is covered with trees and can be seen from a distance of 15 miles. Pulau Simedang Kecil (Little Showalter Islet), covered with palms, lies 0.8 mile NNE of Pulau Simedang.

Both islands are fringed by reefs and foul ground. A light, shown from a 57m high white tower, is situated in the center of Pulau Simedang.

Pulau Simedang must be given a berth of 3 miles on the W and N sides and 2 miles on the E side, as there are numerous reefs in the vicinity. Karang Embleton, a drying reef 2 miles NW of Pulau Simedang, can be seen up to 3 miles away at low water.

A 0.9m patch lies 0.5 mile N of the reef. Karang Blis, 2.5 miles N of Pulau Simedang, has a depth of 0.3m. A patch of sand, with a least depth of 6.8m, lies 0.5 mile ESE of Karang Blis.

**Anchorage.**—Anchorage can be obtained in depths of from 13 to 15m, clay with sand, on the E part of the bank which extends S from Pulau Simedang, provided the island bears less than 359°. An obstruction, dangerous to navigation, exists about 3 miles S of the island.

**Karang Medang** (3°22'S., 106°56'E.) is a coral patch with a least depth of 3m, marked by a light, located 17 miles WSW of Pulau Simedang; it is seldom marked by discoloration. From this reef Pulau Simedang is visible, as are the hills on the S side of Pulau Lepar and the hills near Tanjung Beginda.

Karang Kait, 6.5 miles SSE of Karang Medang, has a depth of 0.9m, and is sometimes marked by water discoloration. An 11m patch lies 1.5 miles NW of the rock.

**2.37 Karang Pasir** (3°29'S., 107°10'E.), 10 miles SSW of Pulau Simedang, is a small sandbank, which dries, and is identifiable within 3 miles. There are several reefs around Karang Pasir. Karang Haaen, the farthest W at 3 miles, has a depth of 4.5m.

A wreck, with its mast exposed 2m above water, was reported to lie about 3.5 miles ESE of Karang Pasir; another wreck, with its mast exposed 5m above water, was reported to lie 3.5 miles further E.

A 10m patch was reported to lie 14 miles ESE of Karang Pasir. Karang Padang, with a depth of 1.8m, Karang Tengah which dries, and Karang Ombak, two small reefs awash lie,

respectively, 1.5 miles WNW, 2 miles NNE, and 3 miles N of Karang Pasir.

A bank, with depths of less than 11m, extends 1.5 miles SW from Karang Ombak.

**Karang Hancock** (Hancock Shoal) (3°34'S., 107°05'E.), 16.5 miles SSW of Pulau Simedang, is a small coral reef with a depth of 5.5m. A reef, with a rock awash on it, is located 2 miles ENE of Karang Hancock. Karang Larabe Shoal, 3.8 miles farther ENE, is a small coral reef with a depth 4.5m. These three dangers are surrounded by depths of 12m and more, and are not marked by discoloration.

**Karang Suji** (3°34'S., 106°55'E.), the farthest SW of the dangers in the S approach to Selat Gelasa, lie 23 miles SW of Pulau Simedang. They consist of four coral patches with a least depth of 0.3m, and are sometimes marked by tide rips; birds are frequently seen hovering over them.

These reefs lie outside the visibility of Pulau Simedang Light, and the island can not be seen from them.

Soundings give little indication of the vessel's position, as the depths in the vicinity are fairly regular.

## Selat Leplia

**2.38** Selat Leplia (Selat Macclesfield) is bound on the W side by the E coast of Pulau Bangka, Pulau Lepar, and the several shoals lying both N and S of Pulau Lepar. The E side is formed by Pulau Liat and a number of shoals and islets S of that island.

There are many conspicuous landmarks for determining a vessel's position, except in the S approach, where some dangers lie out of the sight of land. The narrowest part of the channel, between Pulau Lepar and Pulau Liat, is restricted to a width of 3 miles by shoals lying off the coasts of these two islands.

**Caution.**—A 10m patch of coral, the E danger is this part of the strait, lies about 10 miles SE of Tanjung Berikat.

**Gosong Raya** (2°40'S., 106°53'E.), 6.5 miles SSE of Tanjung Berikat, has a least depth of 3m. Gosong Nutshorn, W of Gosong Raya, is a projecting spit of the coastal bank, 6 miles S of Tanjung Berikat. A detached shoal with a depth of 10m, lies in mid-channel 4 miles SE of Gosong Raya.

The greater part of Pulau Lepar which forms the W side of the narrows, is low and wooded, but a ridge of hills extends W along the S side of the island from Tanjung Murung, the islands SE extremity.

**Tanjung Labu** (2°56'S., 106°55'E.), the NE extremity of Pulau Lepar, is low and fringed by a coastal reef on which there are numerous above-water rocks. A white iron framework structure 22m high, stands on the point.

Bakung, a hill 106m high, is located 2 miles W of the point. Klippige Reef, parts of which dry, lies within a distance of 2 miles ENE of Tanjung Labu.

**2.39 Discovery Rocks** (2°53'S., 106°56'E.), awash and steep-to, lie 3.5 miles NNE of Tanjung Labu, close W of the fairway.

**Pulau Liat** (2°52'S., 107°03'E.), a reef-bordered island on the E side of the narrows, is low, flat, and wooded, except on a

ridge of hills in the S part. Keladi, 137m high, is one of the highest peaks of this ridge, but is not easily recognized.

A spit that partly dries extends 2.8 miles S from Tanjung Batu Tambun, the SE extremity of Pulau Liat.

**Pulau Celaka** (2°52'S., 107°01'E.), a rocky islet covered with vegetation, lies on the coastal reef that extends from the W extremity of Pulau Liat. A light is shown from a beacon on Pulau Celaka.

There are several reefs W and NW of Pulau Celaka and it should be given a berth of 2 miles. A white metal framework structure 14m high, stands on the NW side of the islet.

Alceste Reef, a coral formation with numerous drying heads, lies parallel to the NW side of Pulau Liat, about 0.8 mile offshore.

**Depths—Limitations.**—Gosong George, with depths of less than 10m, extend 9 miles SW from a position 2.3 miles SW of Tanjung Murung. The least depth in the NE part is 3m.

A shoal area with a least depth of 4m, lies on the W side of Selat Leplia, 6.5 miles S of Tanjung Murung, the SE extremity of Pulau Lepar; irregular depths of from 7.9 to 11m extend 9 miles WSW and 2 miles NE from this bank.

Depths of 7.6 to 31m are found between Gosong George and a shoal area about 5.5 miles SE.

**2.40 Karang Karang Baginda** (3°07'S., 107°05'E.), marked by a light, lies on the E side of Selat Leplia, 12.5 miles S of Pulau Liat. The reefs, about 6.5 miles long in a N and S direction, have patches which dry and others which are awash. The W reef of the group, with a depth of 0.9m, lies 11.5 miles SSE of Tanjung Murung. It is the outermost danger on the E side of the S part of Selat Leplia.

An 11m depth is located on the E side of the strait, 8.8 miles ENE of Tanjung Murung.

**Directions.**—Coming from the N, clear weather and good visibility are essential for this route, otherwise it is advisable to proceed through Selat Bangka. However, once Tanjung Berikat is sighted, the entrance to Selat Leplia presents no difficulty.

From NE of Pulau Gelasa or N of Tanjung Berikat, a course should be shaped for a position about 4.5 miles W of the N extremity of Pulau Liat. Care should be exercised to clear Karang Caning, about 10 miles ENE of Pulau Gelasa, and the 10m coral patch 10 miles SSE of Tanjung Berikat.

With the N extremity of Pulau Liat bearing 090°, steer S between Discovery Rocks and Pulau Celaka, giving the latter a berth of 2 miles, to a position 3°10'S, 106°59'E, about 9.5 miles SE of Tanjung Murung.

Take care to avoid the rock with a depth of 1m, which lies about 11.5 miles SE of Tanjung Murung. Steer SSW to pass W of Karang Medang, then steer 195° for a position 4 miles W of Karang Karang Suji. When W of Karang Karang Suji, steer according to destination.

Coming from the S, in thick weather, it is advisable to find anchorage on the bank near Karang Karang Suji in depths of from 13 to 18m and await more favorable conditions. When coming from Java Sea, vessels which are uncertain of their position should proceed with caution when in depths of less than 20m.

Vessels proceeding directly through Selat Leplia from S may follow the directions given above in the reverse order, but on

no account should Pulau Simedang be sighted by day or its light by night.

## Selat Limende

**2.41 Selat Limende** (Selat Clement) is bound on the W by Pulau Liat, Pulau Kueal, Pulau Kalangbahu, and Karang Karang Baginda. Pulau Keleamar and Pulau Aur form the E side of the strait.

**Karang Pandan** (2°53'S., 107°12'E.), marked by a light and lying on the E side of Selat Limende, 7.5 miles E of the SE extremity of Pulau Liat, is a steep-to coral reef with a least depth of 3.6m; it is not marked by discoloration.

Karang Koral, which dries, lies 1.5 miles ENE of Tanjung Batutambun, the SE extremity of Pulau Tominkor, a reef which partly dries and is marked by discoloration, lies 2.8 miles SE of Tanjung Batu Tambun. A ridge of sand and clay, with depths of 11 to 15m, extends 1.5 miles S from this reef.

Terumbu Berbahaya, with a depth of 1.2m, lies in the fairway of Selat Limende, 7 miles SE of Tanjung Batutambun.

**Pulau Keleamar** (2°58'S., 107°14'E.) and Pulau Aur, 9 miles and 9.8 miles SE of Tanjung Batutambun, respectively, are hilly islands covered with large trees.

Pulau Keleamar is 65m high, and Pulau Aur has a peculiar sharp summit 52m high. Both islands are surrounded by reefs and foul ground which extends 1 mile S from Pulau Aur.

**Pulau Kueal** (2°59'S., 107°08'E.), 47m high, 5 miles SE of Tanjung Batutambun, is covered with tall trees and is surrounded by a reef. Foul ground extends 1.8 miles SSW from Pulau Kueal, but it is always marked by discoloration and parts of it is dry.

A 4.5m patch lies 0.5 mile N of the island. Pulau Selemar, located 1.5 miles W of Pulau Kueal, is similarly covered with tall trees and surrounded by reefs.

**2.42 Pulau Bakau** (3°02'S., 107°09'E.) lies 8.3 miles SSE of Tanjung Batutambun; it is low, covered with vegetation, and is surrounded by a coral reef which is steep-to on its W side. There are several detached reefs which extend up to 0.8 mile from its SE side. Pulau Kalangbahu, 0.8 mile ENE of Pulau Bakau, is saddle-shaped when seen from N or S. The E peak is 79m high.

Karang De Brauw, a small portion of which dries, lies 0.8 mile NE of Pulau Kalangbahu and is separated from it by a narrow passage with depths of 24m.

**Directions.**—When making for Selat Limende from the N, steer to clear **Beting Akbar** (2°39'S., 107°15'E.) and pass W of Karang Pandan.

When clear of Karang Pandan, steer 170° and pass midway between Pulau Keleamar and Terumbu Berbahaya to a position about 2.3 miles E of Pulau Kalangbahu.

When Pulau Kalangbahu bears 270°, bring Pulau Simedang ahead bearing 180°, and maintain course until well clear of Pulau Kalangbahu, then steer SSE to a position 6 miles E of Pulau Simedang, then as directed for the S approach to Selat Baur in reverse. When approaching from the S, follow the directions given above in the reverse order.

Selat Limende is seldom used and should not be transited at night.

Middle Passage is a channel connecting Selat Leplia with Selat Limende. On the N side of the channel are dangers extending S from Pulau Liat and Tominkor; on the S side are Pulau Selemar and Pulau Kueal.

Vessels proceeding E through Middle Passage can clear the dangers extending S from Pulau Liat by keeping Pulau Keleamar bearing not more than 090° until Pulau Selemar bears more than 135°.

There is another channel S of Middle Passage connecting Selat Leplia and Selat Limende that has Pulau Selemar and Pulau Kueal on the N and Pulau Bakau and Pulau Kalangbahu on the S side.

To proceed NE through this channel, keep the N extremity of Pulau Bakau in range with the S extremity of Pulau Kalangbahu, bearing 089°, until Pulau Selemar bears 000°, when a fairway will open to the NE.

## Selat Baur

**2.43** Selat Baur is the preferred channel of the three passages through Selat Gelasa. The narrowest part of the strait, between Pulau Geresik on the W, and Kepulauan Lima on the E side, is 4 miles wide.

At night, the lights on Tanjung Ayer Lancur and Pulau Simedang are visible when navigating this part of the strait.

**Beting Akbar** (Akbar Shoal) (2°39'S., 107°15'E.) is a small, steep-to shoal of sand and coral, with a least depth of 1.2m, 15.5 miles NE of Pulau Liat. It is very dangerous, as it is not marked by discoloration and soundings give no warning.

There is a dangerous wreck which lies 8 miles NNE and a stranded wreck lies 5.5 miles NE of Beting Akbar.

**Aspect.**—There are few landmarks in the N approach to Selat Baur; however, there are peaks on Pulau Belitung that are conspicuous.

**Pulau Batudinding** (2°49'S., 107°24'E.), with an elevation of 79m is hilly on the W side, which is indented by a shallow bay, and low on the E side.

Reefs extend up to 1.5 miles off the E side of the island and shallow spots, with depths less than 5.7m, lie up to 4 miles E of the island.

Pulau Langir is a high rocky islet lying off the entrance to the bay on the W side of Pulau Batudinding; it is surrounded by a drying reef. A wreck is stranded on the W extremity of the reef S of the island.

**Pulau Mendanau** (2°53'S., 107°25'E.), on the E side of Selat Baur, is the largest of the islands fronting the W coast of Pulau Belitung. The island is wooded throughout and is hilly in the W and NW portions.

Petaling, a hill 207m high, is near the middle of the island. The shores of the island are generally low with a rocky point here and there.

Tanjung Ayerlancur is a high blunt point from which a steep-to reef extends about 183m W.

A light, shown from a white metal tower 27m high, is on the point. The entire coast of the island N and S of the point is fringed by reefs and rocks, some of them lying as much as 1.5 miles offshore.

Pulau Mendanau is separated from the S coast of Pulau Batudinding by Selat Nasi, a narrow channel only navigable by praus.

Pulau Peling is a small islet, which lies on a drying reef 2.5 miles SSE of Tanjung Ayerlancur and about 1 mile offshore. Pulau Kembang, 60m high, is 1.3 miles N of the same point.

There is convenient anchorage for vessels with local knowledge, in a depth of 14m, hard sand, with Pulau Kembang bearing 215°, distance 1 mile, also 0.5 mile E of the islet in a depth of 20m. Care must be taken to avoid the reefs in this locality.

Pulau Nado is a low wooded islet separated from the SE shore of Pulau Mendanau by Selat Nado, which is available only to small native craft.

**Pulau Gersik** (3°00'S., 107°16'E.), on the W side of Selat Baur, 8 miles SSW of Tanjung Ayerlancur, is a low thickly wooded island surrounded by a steep-to reef. There are depths of less than 5.8m, as far as 0.5 mile N through E, to 0.5 mile SSE of the islet. A shallow spot, depth 2.2m, lies 1 mile WNW of the island.

Good anchorage in a depth of 15m, sand and coral, may be obtained on the ridge which extends S from Pulau Gersik, with the E extremity of the islet bearing 355° and the S extremity of Pulau Aur bearing 293°.

**Caution.**—Pulau Mendanau and Pulau Nado should not be approached inside the 20m curve due to the many dangers present offshore.

**2.44 Kepulauan Lima** (3°03'S., 107°23'E.), a group of six islets, on the E side of the narrows of Selat Baur, vary in height from 13 to 52m.

The islets are covered with tall trees and are surrounded by drying coral reefs; there are deep, narrow passages between the islets.

Pulau Kasenga, Pulau Benolo, Pulau Bago and Pulau Bamijo are on the W side of a deep channel which separates them from Pulau Buyut (Pulau Bujut) and Pulau Lima.

There is a stranded wreck on Pulau Bamijo, and a dangerous wreck lies 4.3 miles S of the same island.

Pulau Kasenga, the NW islet of the Kepulauan Lima group, lies 6.5 miles SW of Pulau Nado and exhibits a light.

Anchorage may be obtained in depths of 15m, sand and coral, with the E side of Pulau Lima bearing 000° and Pulau Bamijo bearing 298°, 0.8 mile S of the reefs lying S of Pulau Lima.

Karang Lumba, a drying reef, lies 0.7 mile ESE of Pulau Bamijo.

A reef, which has a least depth of 1m, lies 0.5 mile SW of Pulau Kasenga, and with the exception of this reef and the one W of Pulau Bamijo, the W side of Kepulauan Lima is clear.

Eastward of a line joining Pulau Kasenga and Tanjung Ayerlancur, there are dangers, numerous enough to warrant avoidance.

## Selat Baur—South Part

**2.45** Pulau Simedang, on the W side of Selat Baur, has been previously described in [paragraph 2.36](#). Karang Ombak and Karang Larabe, also on the W side of Selat Baur, have been previously described in [paragraph 2.37](#).

**Karang Selatan** (3°07'S., 107°25'E.), 4 miles SSE of Pulau Lima, dries. When covered, it is marked by dark brown discoloration and tide rips.



Karang Karang Teree reefs lie 3.8 miles SE of Karang Selatan. They consist of a sandbank with drying rocks.

Anchorage may be obtained W of Karang Karang Teree, in depths of 15 to 16m, with Pulau Lima bearing 340° at 6 miles. A rock awash, lies approximately 8 miles W of Teree Reef.

Karang Nyers, 2.5 miles S of Karang Karang Teree reefs, is a small drying reef, located close inside the 11m line.

**Batu Malang** (White Rock) (3°15'S., 107°28'E.), 8.5m high, 3 miles S of Karang Nyers, lies at the N extremity of a large drying reef. A bank of hard sand, with depths of 5.5 to 8.8m, extends 3 miles SE of this reef.

**Pulau Seliu** (3°13'S., 107°32'E.) lies 4 miles W of Tanjung Genting, the SW extremity of Pulau Belitung. The island is low, except for Marang Bolo, a hillock 69m high, on Tanjung Marangbolo, the S point of the island.

The trees are lower between Marang Bolo and the N part of the island. From a distance of 12 to 16 miles, it has the appearance of two islands. Pulau Saribu is surrounded by a reef which partially dries with several above-water rocks.

Pulau Saribu is a small islet in the channel between Pulau Seliu and Pulau Belitung; this channel is navigable only by praus. Batu Saribu is a white rock about 0.6 mile SSE of Pulau Saribu.

Quarter-Fathom Reef, with a depth of 0.5m, lies 4 miles S of Tanjung Marangbolo.

**2.46 Karang Cooper** (Cooper Reef) (3°22'S., 107°35'E.), 7.5 miles SSW of Tanjung Genting, has a depth of 0.9m, and cannot be recognized by sounding or discoloration. Midway between Karang Cooper and Quarter-Fathom Reef, there is a shoal with a least depth of 7m. A patch with a depth of 5.5m lies 3.5 miles NW of Karang Cooper.

Gosong Awal, lies about 2.5 miles SSE of Karang Cooper; consisting of two drying patches. The E patch, part of which remains exposed at high water, is composed of sand. The W patch is made of large black rocks, some of which are above water and may be seen from a distance of 4 miles at low water.

**Karang Naga** (3°27'S., 107°37'E.), 12.5 miles S of Tanjung Genting, is a small formation of coral and large rocks, and has a least depth of 0.9m. The reef is frequently marked by breakers and tide rips, but seldom by discoloration.

**Karang Genting** (Carnbee) (3°34'S., 107°41'E.), the SE danger in the S approach to Selat Baur, is located 20 miles SSE of Tanjung Genting. The danger consist of 3 small, steep-to coral reefs lying within a distance of 1.3 miles of each other and surrounded by irregular depths.

The W reef is awash. At high water and with a calm sea, it is difficult to locate the group by eye from distances of more than 183m; however, the mountains of Pulau Belitung can be seen from S of these reefs.

**Directions.**—Vessels approaching from the N, especially if the position is not certain, must give consideration to the reefs and dangers lying between 40 and 50 miles NE of Pulau Bangka.

Attention must be paid S to the dangers lying off the N entrance to Selat Gelasa, towards the E is Karang Caning. The isolated reef, with a least depth of 3.6m, lies about 47 miles N of Pulau Langkuas.

When S of the line joining Tanjung Berikat and Pulau Langkuas, the only danger in the N part of the strait is Beting

Akbar. Vessels passing E of this shoal and near Pulau Langkuas must guard against the peculiar nature of the tidal currents in the vicinity of the islet.

When the vessel has cleared Beting Akbar, course should be changed to pass not less than 3 miles W of Tanjung Ayerlancur, avoiding the isolated 22m depth, 2 miles W of that point, then steer S and pass about 2 miles E of Pulau Gersik and continue on this course to a position 6 miles E of Pulau Simedang.

When the vessel has reached the position E of Pulau Simedang, course may be changed according to destination, bearing in mind that Karang Larabe lies about 13 miles SSW of Pulau Simedang and Carnbee Reefs lie about 32 miles ESE of the same islet.

Vessels approaching the strait from the SSW, change course for Karang Larabe in the NW monsoon and for Carnbee Reefs in the SE monsoon. In clear weather, the mountains in the SW part of Pulau Belitung will be sighted some distance S of these dangers.

**2.47 Gunung Ludai** (3°09'S., 107°44'E.) may be sighted from positions as far as 12 miles S of Carnbee Reefs, then shortly afterward, Gunung Beluru, 3.5 miles WSW of Ludai, will be sighted.

From positions near Karang Larabe, other mountains on Belitung should be sighted as well as Pulau Simedang. In clear weather there should be no difficulty in making the strait.

When the vessel's position has been determined, a N course may be steered to a position 6 miles E of Pulau Simedang. The directions given for Selat Baur from N can then be followed in reverse order.

During poor visibility, vessels must depend on soundings. In such cases, it is advisable to make the S edge of the bank which extends about 28 miles S of Pulau Simedang. When depths from 13 to 18m, clay with sand are reached, immediately steer E until in depths of more than 18m, then steer N taking care to stay in depths of more than 18m.

When passing E of Pulau Simedang, keep in depths of not less than 30m. If depths of over 36m have been obtained when making for the S entrance, it may be presumed that the vessel is well over on the E side of the channel, and a NW course may be steered in order to keep in these depths.

If there exists any doubt as to which side of the strait the vessel is on, it is advisable to anchor. It is of interest to note that poor visibility conditions do not usually last for any length of time.

A dangerous rock was reported 12 miles ESE of Pulau Simedang, and a dangerous wreck is 12 miles SSE.

At night, in clear weather, the strait can be approached from S without danger, as the light on Pulau Simedang is visible up to 3 miles S of Karang Hancock, the danger on the W side of the approach. When this light is sighted, a course should be steered to pass 6 miles E of Pulau Simedang and then proceed N.

When the light on Tanjung Ayerlancur is sighted, it must be kept between the bearing of 003° and 022°. When Pulau Gersik is sighted, the vessel's position can be fixed and course may be changed to pass either side of Karang Akbar, according to destination.

## Selat Gelasa—East Side

**2.48 Pulau Belitung** (2°54'S., 107°55'E.), an island forming the W side of Karimata Strait, is roughly circular in shape. It is wooded and rather flat, with a few hills, but no mountain ranges. Tin is dredged in many parts of the island and is shipped from Tanjungpandan.

**Tides—Currents.**—The horizontal movement of water close to the coast of Pulau Belitung is diurnal, while in the fairway of Karimata Strait, it is mainly monsoon current.

In the narrow passages between the islets and reefs, the tidal current may attain a rate of from 2 to 3 knots.

The directions in which the currents set are, as follows:

Locality	Directions
Off the S coast	W and E to SE
Off the E coast	N to NNW and S to SE
Off the NE coast	NW and SE
Off the N coast	W to WNW and E to SE

**Aspect.**—There are few landmarks on the N part of the W coast of Pulau Belitung, between Tanjung Kelayang, the NW extremity of the island, and Tanjung Kubu, a rocky point 10 miles SSW.

The most noticeable mountain is Gunung Tajem, a double-peaked mountain nearly in the middle of the island, 16 miles ESE of Tanjung Kubu. Gunung Tobalo, 4.5 miles S of Tanjung Kelayang and 1.5 miles inland, has three peaks.

The S peak, 164m high, is the highest; they are prominent when seen from the W and in clear weather are visible from a distance of 28 miles but are not easily identified from N. Bulung, a hill 113m high, 2 miles NW of Gunung Tobalo, is dome-shaped when seen from N or W.

**2.49 Tanjung Binga** (2°36'S., 107°38'E.) is a high point 4 miles SW of Tanjung Kelayang. From Tanjung Binga to Tanjung Kubu, 6 miles S, the coast is low and fringed by a bank which dries as much as 1.3 miles offshore in places.

A number of islets, mostly hilly and with many reef patches around them, lie off Tanjung Kelayang.

**Pulau Langkuas** (2°32'S., 107°37'E.) is one of outermost islands off Tanjung Kelayang. It lies 3 miles WNW of this point. A light is near the E end of the island.

Batu Alwina, a shoal with a depth of 3m, lies 1.3 miles NNE of Pulau Langkuas. This danger, the northernmost in the area, is not marked by surf or discoloration. It is recommended that vessels not approach Pulau Langkuas within 3 miles from the N.

There are other islets on the coastal reef which extends 2 miles from the coast between Tanjung Kelayang and Tanjung Binga, about 4 miles SSW.

Pulau Kepayang, the farthest N of these islets, lies 1 mile NW of Tanjung Kelayang; the islet is surrounded by a drying reef and off the N end of this reef is an islet with a high rock close off it. Further SW are Pulau Pegadur, Pulau Burung, Pulau Lutung, and Pulau Kera, which is the farthest S of this group.

Melang Besar, about 2 miles W of Pulau Kepayang, has a conspicuous tree. Melang Kecil, 0.5 mile W of Melang Besar,

is a smooth shining, white-colored rock just above-water. A rock awash lies 183m W of Melang Kecil.

Several reefs lie within a distance of 1.5 miles SSW of Melang Kecil.

**Anchorage.**—Anchorage may be obtained, in depths of from 15 to 16m, sand, 0.5 mile S of Pulau Langkuas. This anchorage may be approached from W by steering for the summit of Pulau Kepayang, bearing 090°, which leads mid-channel between Pulau Langkuas and Melang Kecil, keeping in mind the shoal with a depth of 5.5m, lying 0.45 mile SSE of Pulau Langkuas.

Care should be taken not to confuse the islet, 0.3 mile N of Pulau Kepayang, with Pulau Kepayang itself. The islet appears as two hillocks with a low peak in the center, when approaching from the W, while Pulau Kepayang is difficult to see against the land.

The outermost shoals and reefs which lie off the bank S of Tanjung Binga are described from N to S.

**2.50 Srimanggar** (Sri Manggar) (2°37'S., 107°34'E.), 3.5 miles WSW of Tanjung Binga, has two heads with depths of 5.8 and 7m. Sritajem (Sri Tajem), 1.3 miles SW of Srimanggar, has a depth of 4.9m.

There is a depth of 7m, 0.8 mile SSW of this reef and a shoal patch with a depth of 4.2m lies 0.65 mile ESE of same reef.

Karang Karang Argo (Argo Shoals) are a number of shoal patches with a least depth of 0.4m, lying 1 to 1.5 miles SSE of Srimanggar.

**Sriblitong** (Sri Blitong) (2°39'S., 107°33'E.), with a least depth of 3m, is 5 miles NW of Tanjung Kubu. A 9.1m patch lies 1.3 miles SW of this reef and a 4.5m patch lies 0.6 mile SSE.

Baka Reef, with a least depth of 0.3m, is close N of Tanjungpandan Road, 3 miles WNW of Tanjung Kubu.

There are several shoal patches and reefs E of the above named reefs and shoals.

The chart is the best guide for the positions, dimensions, and for the depths over these various formations.

Between Tanjung Kubu and Tanjung Tikar, 5.5 miles SSW, the coast is indented by a bay into which the Sungai Cerucup flows. Tanjungpandan Road is the roadstead off the entrance to this river. Except for a narrow channel leading to the mouth of this river, almost the entire bay is occupied by a coastal reef, which dries, and which extends 3 miles W from the river entrance.

Outside the coastal reef are numerous detached reefs.

Pulau Kelemoa (Pulau Kalmoa) is an islet on the S side of the channel, 1 mile W of the river entrance; a pier extends from the N side of the islet.

Batu Kijang is the NW extremity of the coastal reef which extends from the S entrance point of the river.

A light is shown from a white metal framework tower with black bands, 9m high, on the coastal reef, 1 mile NW of Pulau Kelemoa.

A fairway lighted buoy, red and white stripes, is moored close W of a 7.6m shoal, 5 miles WNW of the light.

A shoal, with a least depth of 3m, lies on the N side of a swept channel 4 miles NW of the light, and a shoal, with a least depth of 6.7m, lies 3.3 miles WNW of the same structure on the S side of the swept channel.

**Karang Tengah** (2°43'S., 107°33'E.), with a depth of 5.2m, lies 2.8 miles WNW of the light. Mangkok Besar, with a least depth of 3m, lies on the N side of the channel, 1 mile ENE of Karang Tengah.

A 2.7m shoal of sand and coral lies 0.4 mile SE of Mangkok Besar, and a 4.9m patch lies on the S side of the channel, 0.8 mile SW of the same shoal.

**2.51 Tanjungpandan** (2°45'S., 107°38'E.) ([World Port Index No. 50250](#)) stands on the N bank of Sungai Cerucup, 3 miles inside the swept channel. It is the capital of Pulau Belitung and the port is managed by a harbormaster. There is also a customs officer here.

There are two piers which extend S into the channel of the river where there are depths of from 1.5 to 2.7m over a narrow area.

Berthing alongside the piers is limited to vessels up to 36m in length. Between the two piers, there is a basin which was reported to have a depth of 1.8m greater than in the channel. Another pier extends NNW from the S shore opposite the town.

A swept channel, 0.3 mile wide and with a least depth of 7.6m, trends ESE from a position 5 miles WNW of the light-structure toward the outlet of the river. Across the entrance of the river is a bar of hard sand and stones with a least depth of 0.3m, which extends 0.5 mile NW from Pulau Kelemoa.

Ocean vessels do not enter the river, but anchor either in the swept channel or in the inner anchorage. A prohibited anchorage is situated in an area bound by a line joining Tanjung Kubu, a point 4 miles W of Tanjung Kubu, and Tanjungpandan.

Outer anchorage for large vessels of deep draft may be obtained, in a depth of 15m, 0.25 mile N of Karang Tengah. Vessels of moderate size can anchor 1.3 miles WNW of the light, in a depth of 12m, sand.

This anchorage is unsafe in the Northeast Monsoon; vessels can anchor near Pulau Sebongkok, in the N part of Selat Mendanau.

When there is a Southwest Monsoon, vessels should anchor at the N entrance of Mendanau Strait. The inner anchorage is a fairly wide basin, with a least depth of 5.8m, mud and sand, close E of the light. It is comfortable for two vessels, 120m long with a draft of less than 5.7m, and affords good shelter in SE monsoon.

Due to limited room, extreme caution is necessary when anchoring, and the use of both anchors is recommended.

To use the channel and anchorages, make the fairway lighted buoy then steer SE to the outer anchorage. If proceeding farther in, pass between the buoys and beacons marking the channel to the anchorage desired. Pilotage is not available.

**Selat Mendanau** (2°55'S., 107°30'E.), the inshore passage E of Kepulauan Lima, Pulau Nadak, and Pulau Mendanau is marked by buoys and beacons. It can safely be used by vessels with local knowledge proceeding to Tanjungpandan, from the S part of Selat Baur. The bottom in the shallower parts consists of hard sand and in the deeper parts, soft clay.

The W coast of Pulau Belitung, between Tanjung Tikar and Tanjung Borong, 9 miles SSW, is low and wooded with some sandy beaches and a couple of hillocks near the coast. It is fringed for 2 or 3 miles offshore by a drying reef, with some foul ground.

**2.52 Pulau Kelmanbang** (2°47'S., 107°32'E.) is among the islets and dangers that lie on the E side of Selat Mendanau, off the W side of Pulau Belitung. The island lies with its E extremity 2.8 miles WNW of Tanjung Tikar, and is covered with vegetation.

There is a hill on the island, 49m high, and the island is surrounded by a reef. Jumangin, a rock awash, with a patch 4m deep, 0.2 mile NW, lies 0.5 mile W of Pulau Kelmanbang.

Batu Tuku, a drying reef, lies 0.5 mile N of Pulau Kelmanbang, and a shoal with a depth of 4m, lies 0.6 mile NW of Batu Tuku.

Several shallow patches extend 3 miles NW from Batu Tuku on the NE side of the entrance to Selat Mendanau.

Batu Pinang, a reef which dries, is 2.5 miles W of Tanjung Tikar. A drying rock with a depth of 3.9m, close W, lies 0.5 mile W of Batu Pinang.

**Pulau Tikus** (2°51'S., 107°32'E.) is a small rocky islet on the NW edge of a coral reef, which dries, and is 4.5 miles SW of Tanjung Tikar. There is a sand patch covered with low coconut palms on the S extremity of the reef, about 0.8 mile S of Pulau Tikus; drying and below water rocks extend for 0.8 mile farther S. Two rocks, both awash, lie 0.8 mile and 1.5 miles NE of Pulau Tikus.

Perlak Reefs, part of which dries, are a cluster of reefs on the N side of Selat Mendanau, 2.5 miles NNW of Tanjung Kulit. Reefs and shoal patches extend SW from Perlak. Passage should not be attempted W of the cluster.

**Pulau Hoorn** (2°50'S., 107°29'E.) and Pulau Sebongkok are two islands off the E side of Pulau Mendanau. Pulau Hoorn has a prominent hill, 40m high, near its NE extremity.

Tanjung Kulit, close E of the hill, is the E extremity of Pulau Hoorn. Selat Perlak separates Pulau Hoorn from Pulau Sebongkok, and Pulau Sebongkok from Pulau Mendanau; it is only navigable by praus. The passage between Pulau Hoorn and Pulau Mendanau is closed by a drying reef.

Pulau Sikindang is on the W side of Selat Mendanau, 2.5 miles S of the S extremity of Pulau Sebongkok. A rock awash lies 0.3 mile N of the N extremity of Pulau Sikindang.

Karang Gusung Plandok, a reef which dries in places, lies 1.8 miles SSE of Tanjung Burung Gantung, the S extremity of Pulau Naduk (Pulau Nado). A reef, which dries, lies 1 mile S of Karang Gusung Plandok.

A narrow ridge, with depths of 4.8 to 7.9m, extends S from Karang Gusung Plandok, across Selat Mendanau, to Karang Rangas.

**2.53 Pulau Ringgit** (2°57'S., 107°31'E.) is on the E side of Selat Mendanau, 0.3 mile SW of Tanjung Borong.

Pulau Ru is a low island 1.8 miles SSW of Pulau Ringgit; S of this island are Pulau Keringan and Pulau Mendulu. These three islands all lie on a coral reef which dries. E of Pulau Ru lies Pulau Koedoes, Pulau Klebong, Pulau Mantara, and Pulau Batang.

**Directions.**—Vessels making Selat Mendanau from the S, proceed N to pass W of the beacon marking Karang Rangas. When the S extremity of Pulau Mendulu bears 040°, steer for it and pass between the beacon and South Reef.

Maintain this bearing until the ridge between Karang Rangas and Karang Gusuk Plandok has been crossed in a least depth of 7.9m.

After crossing the ridge, steer 005°. The beacons, about 1 mile ESE and 1.3 miles ESE, will soon be seen. Pass between the beacons, then steer NNE to pass midway between Pulau Sikandang and Pulau Ringgit, then midway between Pulau Sebongkok and Pulau Tikus, taking care to avoid the 5.8m patch which lies 0.3 mile off the E coast of Pulau Sebongkok.

Pass W of the beacon 0.8 mile SW of Batu Pinang, and then W of the shoal patches about 3 miles NW of Batu Tuku. If bound for Tanjungpandan Road, steer ENE after rounding this shoal and head for the swept channel.

Vessels desiring to make a S passage through Selat Mendanau, follow the above directions in reverse order.

## Pulau Belitung—West Coast

**2.54** The W coast of Pulau Belitung is generally low and wooded, with a few mountains inland which form useful landmarks.

**Tanjung Borong** (2°56'S., 107°32'E.) is 9 miles SSW of Tanjung Tikar. The coast between Tanjung Borong and Tanjung Tambelan, 16 miles S, is fronted by banks, reefs, and low islands extending several miles seaward.

Teluk Brang, a large shallow bay, navigable only by praus, immediately S of Tanjung Borong, is entered by a narrow passage between Pulau Ru and Pulau Batang. The N extremity of Pulau Batang is 2 miles S of Tanjung Borong.

From Tanjung Tambelan, which is connected to the shore by a narrow neck of land, the coast extends SSE 3 miles to Tanjung Genting, a rocky point, which is the SW extremity of Pulau Belitung. Pulau Genting and some rocks, above-water and awash, lie close S of Tanjung Genting.

**Bagienda** (3°13'S., 107°37'E.), 1.8 miles NNE of Tanjung Genting, is a rocky hill with two summits. The W summit, 156m high, is fairly sharp. The E summit is 162m high. Gunung Beluru, 361m high, 4.5 miles NE of Bagienda, is a long narrow ridge.

The highest peak is rendered prominent by a small area of woods on the N side of the ridge, especially when seen from E or W.

Kura, 1 mile ESE of Gunung Beluru, is 205m high. Gunung Ludai, 3.5 miles E of Gunung Beluru, and Gunung Gedeh, 0.5 mile farther NE, are 332 and 381m high, respectively.

The latter can be distinguished from a distance of 40 miles in clear weather. Gunung Kubing, 341m high, 7 miles N of Gunung Beluru, has a ridge extending 5 miles NE; there are a few prominent peaks on the ridge. Gunung Agung, at the NE end of the ridge, has two peaks; one reaches a height of 363m.

## Belitung—North Coast

**2.55** The N coast of Pulau Belitung is about 40 miles long between Tanjung Kelayang and Tanjung Burungmandi.

This entire coast is fringed by coral reefs, sandbanks, and rocks. There are some small isolated coral reefs, dangerous to shipping, which lie up to 11.5 miles offshore. These dangers are steep-to and are not marked by discoloration.

It is possible that a number of undiscovered dangers may lie off this coast. The usual route to and from Selat Karimata leads N of Florence Adelaide Karang, and the coast of Pulau Belitung is not sighted.

**Tanjung Siantu** (2°32'S., 107°49'E.), the N extremity of Pulau Belitung, lies 9.5 miles ENE of Tanjung Kelayang, the NW extremity of the island. Tanjung Siantu can be easily identified by the conical hill, 52m high, near the point, and by Pulau Siantu, 30m high, close NW of the point.

The coast between Tanjung Siantu and Tanjung Kelayang is fronted by reefs and above water rocks, and should be given a berth of 4 miles. The outermost reef has a depth of 4.9m and lies 3.5 miles offshore, 4 miles WNW of Tanjung Siantu. A 2.7m patch lies 1.3 miles NNE of Tanjung Siantu.

Kampung Sujuk, the capital of the district, is 3 miles NNE of Tanjung Siantu; a dangerous wreck lies 3 miles NNE of the point.

**Tanjung Krupit** (2°35'S., 108°01'E.) lies 12 miles ESE of Tanjung Siantu; a low ridge of hills runs close to the coast. A number of rocks, islets, and reefs lie off this section of coast, and form a chain separated from the coast by a narrow channel. Pulau Keran is the farthest E of the islet in this chain.

Pulau Bulu, a vegetation-covered, reef-fringed islet, rises to a height of 4.9m, 3 miles E of Tanjung Siantu.

Pulau Mulut is a small rocky islet that rises to a height of 67m, 4 miles E of Pulau Bulu; it appears as a rounded hillock when seen from seaward.

A rocky formation, which uncovers, lies about 4.5 miles N of Pulau Mulut.

A ridge of rocks and reefs, with some awash, covers a distance of 3.5 miles in an E and W direction, 1.5 miles N of Pulau Mulut. There is a deep channel between them and Pulau Mulut. A 4m patch lies 4 miles NE of Pulau Mulut.

**2.56 Tanjung Boeding** (Tanjung Batu) (2°36'S., 108°03'E.), the E entrance point of Teluk Buding, is 2 miles ESE of Tanjung Krupit.

Teluk Buding indents the coast to a distance of 3 miles; it is important locally, as Buding, the district capital, is on the Sungai Buding, about 4 miles from its mouth.

Numerous reefs lie off the entrance to a bay, which can only be entered by small vessels with local knowledge. The outermost reef, with a depth of 2.7m, is nearly 4 miles N of Tanjung Boeding. A narrow passage, marked by privately maintained beacons, leads along the E side of Pulau Keran and Tanjung Krupit.

There is good anchorage for vessels with local knowledge in the entrance to Teluk Buding, with Tanjung Krupit in line with the E extremity of Pulau Keran, bearing 330°, in a depth of 6m, mud.

The coast between Tanjung Boeding and Tanjung Burungmandi, 17 miles SE, is fringed by a coral reef, which extends about 1 mile offshore NE of Tanjung Boeding. There are many dangers outside the reef.

**Teluk Pering** (2°40'S., 108°09'E.), a small bay midway between these two points, is entered between Tanjung Sengaran on the N, and Tanjung Kluang; the greater part of the bay dries.

There are several useful peaks for fixing a vessel's position along this coast. Gunung Mang (Kelapa Kampit), 12 miles WNW of Tanjung Burungmandi, is a prominent conical hill, 216m high.

Gunung Sekaju, 170m high, 16 miles WNW of Gunung Mang, has a crater-shaped summit and a prominent patch of red rock on the E slope; its W slope is rugged.

**Off-lying dangers.—Pulau Kanis** (2°38'S., 108°12'E.), 3.8 miles NE of Tanjung Kluang, is a low islet from which a reef extends 1 mile ESE and WNW. A light, shown from a white metal tower, 13m high, is on the islet.

**2.57 Karang Tri** (2°43'S., 108°16'E.) is a small islet, practically awash, lying 7 miles SSE of Pulau Kanis.

A number of reef patches lie between Pulau Kanis and Karang Tri. The outermost, in a position 4 miles ESE of Pulau Kanis, has a depth of 3.6m.

**Karang Busungerlang** (Pulau Busung Serlang) (2°35'S., 108°19'E.), 7 miles ENE of Pulau Kanis, has a yellowish-brown sand bank above water on its NW part, which is usually visible from a distance of 4 miles.

A reef with a depth of 1.8m, lies 4 miles SE of Karang Busungerlang. Two other reefs are reported to lie between them.

A dangerous reef, with a depth of 0.9m, lies 8 miles NNE of Pulau Kanis. A rock, with a depth of 3.6m, lies 9 miles NNW of Pulau Kanis. Patches, with depths of 4.5m and 0.9m lie, respectively, 4 miles WNW and 7.5 miles NW of Pulau Kanis.

## Belitung—East Coast

**2.58** The E side of Pulau Belitung is fronted by numerous islands, islets, and reefs which extend up to 45 miles NE and 65 miles SE from this coast. Vessels should not leave the recommended routes through this area except in case of emergency. Local knowledge is essential for safe navigation in these channels. Pilots for these waters can be obtained at Tangpandan.

**Tanjung Samak** (2°53'S., 108°17'E.) is 8 miles S of Tanjung Burungmandi. A small hill, 72m high, is near the point and has a building with a small conical tower on it.

The lights of the settlement on the hill can be seen from a distance of 20 miles. A white power station on the N side of the hill is prominent by day.

From E, it is recommended not to approach closer than 10 miles to Tanjung Samak and not to navigate in depths of less than 18m.

The low coast trends irregularly SSW from Tanjung Samak to Tanjung Batuhitam (Tanjung Batu Hitam), a distance of about 25 miles.

There are two landmarks along this coast. Gunung Slumar, 166m high, lies 7.5 miles WSW of Tanjung Samak; Gunung Bolong (Boleng), 341m high, lies 9 miles NNW of Gunung Slumar; both appear as isolated cones.

The Sungai Linggang and the Sungai Manggar flow into the sea 9.8 miles SSW and 2.5 miles NNE, respectively, from Tanjung Samak. Muara Putus, the mouth of Sungai Londji, lies 1.5 miles N of the mouth of Sungai Manggar.

There is a roadstead, 1 mile E of Muara Putus, where anchorage can be taken in depths of 6m. Local knowledge is necessary, both in approaching the roadstead, and in taking anchorage.

Another anchorage is about 5 miles NE of Muara Putus, in depths of 18 to 38m, stones, between Busung Madau and a 3m patch, about 2.5 miles SW.

**Directions.**—Directions which follow are for a coastwise passage from Linggang Roadstead N to Manggar Roadstead, and are not to be attempted without local knowledge.

Follow directions given for Linggang Roadstead from S, until in a position 2 miles E of Pulau Melidang. From this position steer 030° until the N extremity of Pulau Sukun is in line with the N extremity of **Karang Busungjong** (2°59'S., 108°20'E.), bearing 238°. This range, in line astern, leads in a least depth of 9m between two reefs, and close NW of a 4.9m patch lying 4.5 miles ENE of Karang Busungjong.

Attention must be paid to the tidal currents which set N and S across these reefs. When the W edge of Pulau Bukulimau bears 342°, steer 322° to pass W of the sandy cay which lies 2 miles SSW of that island.

When the S edge of Pulau Bukulimau bears 065°, steer for Busung Madau. The pilot should be embarked about 2 miles SSW of that danger.

When coming from N, steer to pass W of the lighted buoy moored 2.5 miles NW of Gosong Madau (Busung Madau), then E of the black buoy, where the pilot will be embarked. This route has not been swept and the possibility of uncharted dangers exist.

The roadstead is approached through a channel, with a least depth of 4.6m, which runs parallel with the coast. It is entered from the N, passing close E of the buoy moored on the 3m patch, described above. The channel is buoyed, but dredging is continuous and positions of the buoys may change.

An oil pier, with a depth of 8.8m at its head, extends from the coast about 0.8 mile NE of Tanjung Samak.

Mooring buoys are situated off the head of the pier. Vessels cannot lie alongside the pier during the height of the SE monsoon. Dredges operate close to the buoyed channel leading to the pier. This channel has a least depth of 4.3m.

**2.59 Manggar** (2°53'S., 108°18'E.) ([World Port Index No. 50260](#)) stands on the S bank of Sungai Manggar, 2.5 miles within the mouth of the river. Manggar is the capital of the district of Linggang.

The mouth of the river has been dredged to a depth of 3m. Coastal vessels can proceed up the river to a berth at a quay, 45m in length, and cargo praus may proceed as far as Manggar.

The ebb current may attain a rate of 3 knots. From May to September inclusive, the N current is stronger and of longer duration than the S current. October to April the flow is almost always S. There may be a strong current by the oil pier.

Pilotage is available; the pilot meets vessels in the vicinity of the buoy SW of Gosong Madau. Requests for the pilot, stating the probable time of arrival at the buoy, should be made to "Constanno," Tanjungpandan.

Between Tanjung Samak and Tanjung Medong, 6 miles SSW, the coast is fronted by numerous coral reefs and sand ridges, extending SE from Tanjung Samak. The reefs and sand ridges extend to within 3 miles of Protet Reefs.

**Caution.**—Vessels passing along the coast must keep NE of Karang Karang Protet (Protet Reefs) and give Tanjung Samak a berth of 12 miles when SE of it and 10 miles elsewhere, as numerous dangers lie close inshore.



## Kepulauan Momparang

**2.60** Kepulauan Momparang lies NE of the NE extremity of Pulau Belitung. It consists of a number of small islands, sand banks, and coral reefs which extend over an area 30 miles long in an E and W direction and are 10 miles wide. The islands are uninhabited, but are visited by fishermen from Pulau Belitung.

**Pulau Mempirak** (2°43'S., 108°26'E.), the S island of the group, lies 10 miles ENE of Tanjung Burungmandi. The island is thickly wooded and has some very tall trees which show plainly above the others. A reef, with a depth of 3.7m, lies 2.5 miles SW of Pulau Mempirak.

Some reefs, which dry and are generally marked by surf, lie between it and Pulau Mempirak. There is a reef, with a least depth of 0.9m, 3 miles ESE of Pulau Mempirak.

Except for these reefs, the channel between Pulau Mempirak and Pulau Siadung, 5 miles SSW, is clear and deep, and can be used by vessels bound for Teluk Buding, from SW.

**Pulau Bakau** (2°41'S., 108°25'E.), a low flat island 1.3 miles NW of Pulau Mempirak, has some below-water rocks and a drying sandbank within 1 mile NE and within 0.5 mile of its SW side. A reef extends 1 mile from the SE side of the island.

Pulau Sadung, 4 miles E of Pulau Bakau, is low and covered with vegetation.

**Pulau Maranai** (2°38'S., 108°30'E.) is a thickly wooded island, visible 14 miles in clear weather, which can be readily distinguished from the other islands by its peculiar round shape. The area around and between Pulau Sadung and Pulau Maranai is foul and should be avoided.

A sandy cay with a few trees on it is 1 mile E of Pulau Maranai.

**2.61 Karang Hydrograaf** (Hydrograaf Reef) (2°35'S., 108°25'E.), 4.5 miles NW of Pulau Maranai, has a depth of 3.7m, and is not marked.

**Pulau Telagapahat** (2°34'S., 108°34'E.), 5 miles NE of Pulau Maranai, is low except for two rocky hillocks near its S end. There are two small islets 1.5 miles N of the N extremity of Pulau Telagapahat. All three islets are thickly wooded and are visible 12 miles.

A reef, with a depth of 0.9m, lies 2 miles W of Pulau Telagapahat. Foul ground, with some above-water reefs and sand cays, lies 1.25 to 3 miles E and 1.25 to 5 miles SE of the island.

**Pulau Nangka** (2°30'S., 108°32'E.), 4 miles N of Pulau Telagapahat, is the only high island of Kepulauan Momparang. The island rises in two peaks; the S peak, the highest, rises to a height of 180m, and during clear weather may be seen up to 32 miles.

From the E or W, these two summits appear as two detached islets. There is a small islet on a drying reef 0.5 mile W of the S point of Pulau Nangka. A 1.2m patch lies 1.5 miles to the SW.

Karang Corcyra (Corcyra Reef), with a least depth of 2.1m, lies 3.5 miles W of the S extremity of Pulau Nangka. The reef is not marked by surf or discoloration.

**Karang Telegapahat** (Warren Reef) (2°33'S., 108°39'E.), lying 5.5 miles ENE of Pulau Telegapahat, is a low sandbank 2m high. A small drying reef lies 1 mile S. Shallow areas, with

depths of 6.7 and 2.1m, lie 2 miles WSW and 1 mile N, respectively, of Karang Telegapahat.

Shoals, with depths of 1.2 to 3m, lie up to 3 miles W of Karang Telegapahat.

**Pulau Karangraja** (2°35'S., 108°44'E.), a low flat island, lies 4.5 miles SE of Karang Telegapahat. Pulau Belian, 2 miles ENE of Pulau Karangraja, 51m high and covered with tall trees, is visible up to 16 miles away.

Reefs extend up to 3 miles NNW from Pulau Belian, terminating in Pulau Gubbins (Reef), a 2m high sandbank.

Other dangerous below-water rocks and reefs lie 3 miles N, up to 0.8 mile N, 3 miles WNW, and 2.5 miles NE of Pulau Gubbins.

**Pulau Pesemut** (2°30'S., 108°51'E.), the E island of Kepulauan Momparang, lying 6 miles NE of Pulau Belian, is a sand cay with trees, 39m high. A light is shown from Pulau Pesemut, and a radiobeacon transmits from the island.

Pulau Tuan and Pulau Yustina (Justina Reef), awash, lie 1.8 miles SSW and 1.5 miles ESE, respectively, of Pulau Pesemut.

Karang Wittingham (Whittingham Reef), with a depth of 3.7m, lies 1.5 miles N of Pulau Yustina (Justina Reef).

Karang Tenang (Catherine Reef), with a depth of 1.5m, lies 3 miles E of Pulau Yustina. These two reefs are not marked by surf or discoloration. A 1.5m patch lies 0.8 mile SW of Pulau Yustina.

**2.62 Karang Condor** (Condor Reef) (2°25'S., 108°41'E.), the N danger of Kepulauan Momparang, lies 10.5 miles WNW of Pulau Pesemut. It consists of two small patches of coral with a depth of 4.5m. The reef is not marked by breakers or discoloration, but there are frequent tide rips.

The area E of Pulau Telegapahat to Pulau Pesemut is encumbered with reefs, and it is possible that other dangers, besides those shown on the chart, may exist.

The passages between the islands and reefs of Kepulauan Momparang are very dangerous to large vessels. Small vessels can, in the case of an emergency, make use of a few of them. The best channel is between Pulau Maranai and Pulau Telegapahat.

From S, steer to pass midway between these two islands on course 302°, taking care to avoid a 7.6m patch, 3.5 miles N of Pulau Maranai. When Pulau Maranai bears 180° change course slightly N to pass between a 4.9m patch, lying 2.3 miles ENE of Karang Hydrograaf (Hydrograaf Reef), and Karang Corcyra (Corcyra Reef).

Another channel leads from E toward the N coast of Pulau Belitung. To use this channel, keep the S peak of Pulau Nangka bearing between 248° and 258°. When past Karang Condor (Condor Reefs) and approaching Pulau Nangka, steer to pass not less than 1.5 miles N of the latter.

## Off-lying Islands and Reefs

**2.63 Gosong Madau** (Busung Madau) (2°46'S., 108°22'E.), about 6 miles E of Tanjung Burungmandi, a sand cay covered with shrubs and some palms, is visible 10 miles.

A reef, with a depth of 1.2m, lies 1.5 miles NW of Gosong Madau. A lighted buoy is moored about 0.8 miles NNW of the reef.

**Pulau Bukulimau** (2°49'S., 108°24'E.), 9 miles NE of Tanjung Samak, is a low, tree-covered islet visible 15 miles. Foul ground extends 1.3 miles SE from the islet. A sand cay, covered with shrubs, lies 2 miles SSW of Pulau Bukulimau.

Pulau Siadung, 1 mile NNE of Pulau Bukulimau, is low and thickly wooded. A drying sandbank lies 0.5 mile E.

**Sungai Linggang** (3°02'S., 108°12'E.), the most important river on the E side of Pulau Belitung, flows into the sea 9.5 miles S of Tanjung Samak. The river has scoured a channel through the coastal bank of sand and coral, which extends 0.8 mile E from the S entrance point of the river.

The channel and the river as far up as Gantung, 6 miles above its mouth, are marked by beacons which are privately maintained. There is a least depth of 1.2m on the bar, but the river depths increase to 1.8m and more.

Owing to various sand ridges, it is only navigable by small craft with a draft of 1.2m, after half flood tide.

**Tanjung Tepox** (Tanjung Tapok) (3°08'S., 108°12'E.) is 8 miles S of the mouth of the Sungai Linggang. Tanjung Batubujong, the S entrance point of a shallow bay, is 7.5 miles SW of Tanjung Tepox. Tanjung (Batu Hitam) Batuhitam lies 2 miles further S.

**Pulau Selandu** (3°04'S., 108°15'E.) lies 1.3 miles offshore, 4.8 miles NE of Tanjung (Tapok) Tepox. The island is hilly and is almost connected to the main coastal reef, which dries. Pulau Melidang lies 1.8 miles E of Pulau Selandu.

From the E the islet appears as a rugged ridge of hills and is visible 20 miles. There are two small islets in the channel between Pulau Selandu and Pulau Melidang.

Pulau Sukun is a small islet 2 miles NE of Pulau Selandu. It is fringed by a drying reef which extends 0.8 mile SE. A drying reef is 2.5 miles SE of Pulau Sukun; an isolated coral head, awash, lies 0.5 mile NNE of the drying reef.

**2.64 Pulau Sekapar** (3°09'S., 108°14'E.) lies 2.3 miles E of Tanjung Tepox. Several reefs awash, or with depths of less than 0.7m, lie about 2 miles E and 1 mile S of Pulau Sekapar.

A chain of islands extend 5 miles S from Tanjung Tepox, which is almost joined to the point by a drying bank. Pulau Tepi is the S island of this group.

**Pulau Serukat-besar** (3°11'S., 108°07'E.) lies 5 miles NE of Tanjung Batuhitam, and 0.3 mile offshore. In the NW monsoon there is good anchorage 1.5 miles S of this islet, in a depth of 9m, mud and sand. This position can easily be approached from S.

**Karang Karang Protet** (Protet Reefs) (3°03'S., 108°29'E.) are two steep-to reefs lying 2.5 miles apart in an ESE and WNW direction.

Karang Timur (East Protet Reef) lies 17 miles SE of Tanjung Samak and has a depth of 1.2m. It is steep-to and generally breaks. Karang Barat (West Protet Reef) has a depth of 2.7m, coral.

**Pulau Rotan** (3°13'S., 108°16'E.) lies 4.5 miles E of Pulau Tepi. The channel between them is divided into two parts by a shoal, which has several above and below-water rocks. The channel W of the shoal has been swept and is the recommended inshore route.

A reef, with a depth of 0.9m, lies 2 miles SSW of Pulau Rotan and a rock, with a depth of 1.5m, lies 3.5 miles SSE of the island.

Reefs and submerged rocks extend 6 miles NE and 3 miles SE from the island.

**2.65 Schaarvogel Islands** (3°17'S., 108°25'E.) occupy an area approximately 8 miles in diameter, about 20 miles E of Tanjung Batuhitam (Tanjung Batu Hitam). The group of islands are all low and thickly wooded and there are reefs and sandbanks around them. Nearly all the reefs are steep-to and soundings give no warning.

**Pulau Ayermasin** (3°15'S., 108°23'E.), the NW islet of the group, lies 6 miles ESE of Pulau Rotan. A prominent tree, standing near the center, is visible 18 miles.

Although it has been swept over a width of 1.3 miles, the channel between Pulau Rotan and Pulau Ayermasin is not recommended because of reefs in the S entrance. Pulau Marai lies 2 miles SSE of Pulau Ayermasin. The passage between these islands is foul.

Pulau Penerus lies 3 miles SSE of Pulau Ayermasin, in the middle of the group. There is a narrow, deep channel on the W side of Pulau Penerus; the channel on the E side is wider, but coral patches and detached rocks, marked by surf or discoloration, lie on either side of the channel.

Pulau Pengapit, 2 miles SE of Pulau Penerus, consists of two islets separated by a narrow, drying channel.

**Pulau Beluput** (3°20'S., 108°27'E.), the highest of three islets which lie close together on the E side of the group, can be readily identified when seen from the E as a hump.

Several dangers lie S of Pulau Pengapit, the outermost being a rock, awash, 4 miles S of that island.

It should be noted in connection with the channels through the island group, that the tidal currents are strong and there is little shelter in either monsoon.

**Karang Tiung** (Osterly Reefs) (3°20'S., 108°37'E.) lie about 11 miles E of Pulau Beleput. Karang Utara is farthest N of the group; the reef nearly dries and is often marked by breakers and tide rips.

A 6.7m patch lies 2.5 miles W of Karang Utara, and 2 miles farther W is a reef with a depth of 1.2m.

The latter reef can usually be detected by tide rips. With a moderate breeze, no surf or discoloration has been observed. Karang Timur, 3 miles S of Karang Utara, has some drying reefs. Karang (Selatan) Selatan, 1.5 miles SW of Karang Timur, the farthest S of the group, is a coral reef with a few patches of sand, 1m high; it is marked by a light.

Tidal currents between the Karang Tiung (Osterly Reefs) are diurnal and run NW and from SSE to ESE; a very slight current has been observed setting NW in November, and in December a constant current setting SSE, only occasionally diminishing in force.

**2.66 Karang Bower** (Bower Reef) (3°28'S., 108°37'E.), 6 miles S of Karang Selatan, is a small steep-to coral reef with a depth of 2.1m, lying in the middle of a narrow sand ridge 13 miles long in a N and S direction.

This reef is never marked by discoloration, but there are sometimes eddies. Less water than charted has been reported (1997) SSE of Karang Bower.

Within the triangular area bound by lines joining Pulau Rotan, Karang Karang Protet, and Karang Bower there are numerous dangers in addition to those described. On the

various ridges of sand are scattered rocks and small patches of coral, some of them are above-water.

Reliable landmarks can only be seen in clear weather, and even then are difficult to identify. The tidal currents are strong, and the water is usually so turbid that the bottom cannot be seen even at a depth of 4m. This area should be avoided except in case of necessity.

**Directions.**—It is not advisable to approach Linggang Roadstead from E as there are reefs and other dangers difficult to detect.

When approaching from S, use the swept channel between Pulau Tepi and the group of islets and reefs 1 mile E. Steer for the E extremity of Pulau Tepi, bearing 010°, and when 1 mile S of it, steer NE to pass 2 miles SE of Pulau Sekapar and 0.5 mile SE of the reef, awash, lying 2 miles E of that island. Maintain this NE course until 3.3 miles SE of Pulau Melidang, then steer for a position 0.8 mile NE of Pulau Melidang.

Pass midway between the island and the drying reef, 1.5 miles NE, then a WNW course can be steered for the anchorage, 2 miles E of the mouth of Sungai Linggang.

Anchorage can be taken N of Pulau Selandu in depths of 4.3 to 6.1m.

## Belitung—South Coast

**2.67** From **Tanjung Batuhitam** (Tanjung Batu Hitam) (3°15'S., 108°04'E.), the E point on the S coast of Belitung, the coast trends 6 miles SW to Tanjung (Kelumpang) Kelumpang, a rocky point. The land between the two points is low and densely wooded.

**Mengarun** (3°04'S., 107°59'E.), 12.5 miles N of Tanjung Kelumpang, consists of three ridges close together which rise to a height of 237m. Tiung is an isolated conical hill, 192m high, 4.5 miles ESE of Mengarun.

Some islets and rocks lie on the coastal reef, which dries and extends 0.5 mile offshore between Batuhitam and Tanjung Kelumpang.

Some small islets or rocks lie close off Tanjung Batuhitam.

A reef, with a depth of 0.5m, is 0.5 mile off this point. There are some above-water rocks, 1 mile SE of Tanjung Kelumpang, and a reef with a depth of 1.2m, 1.5 miles SSE of the same point.

There is a 3.7m patch, 2.5 miles WSW of Tanjung Kelumpang.

**Pulau Kebatu** (3°48'S., 108°04'E.), 31 miles S of Tanjung Kelumpang, is a bare, conical shaped islet, 105m high. The islet is steep-to except at its NW side where there is a sandy beach, and a reef with some above-water rocks, which extends 0.2 mile offshore. It is considered a good mark and can be recognized up to 22 miles.

White Rocks (Pulau Putih) is a grayish-white rock formation, 17.4m high, visible up to 12 miles, which lies 1 mile SW of Pulau Kebatu. A reef, with a depth of 0.3m, lies 0.5 mile NE of White Rocks. At times, the reef is marked by brown discoloration. Zephyr Reef (Karang Bali) (Karang Beli) lies about 1 mile W of Pulau Kebatu. It is marked by a light and by breakers and has some drying rocks. A shoal, with a depth of 22m, lies 17 miles SW of Pulau Kebatu.

**Grace Reefs** (3°43'S., 108°06'E.) are two reefs which lie NE of Pulau Kebatu. Karang Mandi, the SW reef, which is awash,

lies 4 miles NE of Pulau Kebatu. The N reef, Karang Kawat, which has a few rocks which dry, lies 2 miles farther NE. Both of these reefs are steep-to and are usually marked by surf or tide-rips at high water.

**Pulau Ketapang** (3°25'S., 107°57'E.), a low islet lying about 8.5 miles S of Tanjung Kelumpang, is swampy and wooded. There are two above water rocks, on the N side of the reef, which surrounds the islet.

**2.68 Teluk Balok** (3°14'S., 107°53'E.) is entered between Tanjung Kelumpang and Pulau (Keramiah) Kramiah, a small islet surrounded by reefs, 14 miles W.

The bay is important for local vessels. Dendang, the capital of the district, is on the E side of the head of the bay. The bay can only be entered by vessels with light draft and local knowledge. It is encumbered with reefs which dry; some beacons are privately maintained.

**Pulau Umpang** (3°17'S., 107°52'E.), a small islet covered with shrubs, lies in the middle of the entrance to the bay, 7.5 miles W of Tanjung Kelumpang. There are several reefs within 2.5 miles NE and 2 miles SW of the islet. Swept channels, which pass E and W of these reefs, join N of Pulau Umpang to form a common channel leading N to the anchorage that lies E of Pulau Kampak.

Pulau Berumput is a small islet in the E part of the bay, 6.5 miles NNW of Tanjung Kelumpang. Tanjung Rising is a point on the E shore, 5 miles NNW of Pulau Berumput. Pudak, a hill on the E shore, about 9 miles N of Tanjung Kelumpang, forms a useful range with Pulau Berumput.

On the W shore are Tanjung Rusa, 6.8 miles NNE of Pulau Keramiah, and Pulau Kampak, 3.5 miles farther NNE. A beacon stands on a reef patch 0.5 mile E of Pulau Kampak.

Anchorage can be taken 1.3 miles SW of Dendang, between Tanjung Rising and Pulau Kampak, in a depth of 4.6m. With strong S winds, the water at the head of the bay sometimes rises 0.3m above the usual level. The bay may be entered by passing on either side of Pulau Umpang. It is recommended that only those vessels with local knowledge enter the bay.

From **Tanjung Rusa** (3°10'S., 107°50'E.), the coast trends 14 miles WSW to Tanjung Genting, the SW extremity of Pulau Belitung; the mountains lie close to the coast in this area.

Tanjung Batu Penju is a point 11.5 miles WSW of Tanjung Rusa. Tanjung Batu Tungku is 1.3 miles farther WSW; both points are rocky. The coast from Tanjung Rusa to Tanjung Batu Tungku is fringed by a narrow drying reef.

**Pulau Kramiah** (Pulau Keramiah) (3°15'S., 107°45'E.), the W entrance point of Teluk Balok, is the farthest E of two small islets surrounded by reefs. Patches of drying reef extend 1.5 miles W and 1 mile ESE of Pulau Kramiah.

Pulau Belatuk, a small islet 4 miles E of Tanjung Genting and 1 mile offshore, is on the W part of a large drying reef. A drying reef lies 0.5 mile E and a reef, awash, lies 1.8 miles S of Pulau Belatuk.

Pulau Ketupai is 2 miles SW of Pulau Kramiah and is surrounded by reefs. There is foul ground N of a line joining Pulau Kramiah and Pulau Belatuk.

Pulau-Pulau Masar are four thickly wooded islets about 8 miles SE of Tanjung Genting; the islets are visible 12 miles.

**Pulau Kennedy** (3°21'S., 107°42'E.) is the largest islet of the group. There is a small islet located 1 mile NW of the above

islet. Pulau Utan, 1.5 miles ESE of Pulau Kennedy, is surrounded by a reef, which has a small islet on the W extremity that is connected to Pulau Utan by a drying part of the reef. Pulau Kennedy is also surrounded by a reef which extends 0.5 mile from its SE side. There is a least depth of 10m between the islands and in their immediate vicinity.

## Selat Karimata

**2.69** Selat Karimata lies between the coast of Borneo on the E and Pulau Belitung on the W side. This strait is the customary route taken by vessels bound to or from Malaysia, or the S part of China Sea from the E part of the Java Sea.

The main route lies E of a line joining **Ontario Reef** (1°59'S., 108°39'E.), Karang Tenang (Catherine Reef), a position 20 miles E of Terumbu Manggar (Cirencester Shoal), and **Gosong Mampango** (Discovery East Bank) (3°35'S., 109°10'E.).

This line must be considered as the W limit for safe navigation for large vessels passing through the strait, as uncharted dangers may exist W of the line.

**Winds—Weather.**—Local weather conditions in Selat Karimata vary with the monsoon. Light variable winds prevail in April and November. The SE monsoon prevails from May to October, and the NW monsoons from December to March. WNW winds predominate in December, veering to NW in January with increasing force and constancy and persisting to March. Squalls are most frequent in November and December. A moderate swell develops during the NW monsoon in January and February.

**Tides—Currents.**—The tides in Selat Karimata are principally of monsoonal origin; the tidal currents are diurnal, but their influence is felt only under the coasts of Borneo and Pulau Belitung, so that they are of little importance to vessels passing through the strait. In the open part of the strait the mean rate of the current is 0.5 knot in the SE monsoon, and 1 knot in the NW monsoon. These rates are subject to considerable variation which cannot be predicted; a maximum rate of 2 knots has been measured during the SE monsoon and 1.5 knots during the NW monsoon. The direction of the current depends on the predominating wind which is practically that of the direction of the channel itself. In the narrower passages, it is probable that the currents may exceed a rate of 3 knots.

Only during the change of seasons should extra attention be paid to the tidal currents, and even then these currents are not strong in the open parts of the strait. Their directions at such times have been observed as indicated below:

1. West of Karang Cina (China Reef)—NE and SW.
2. West of Pulau Serutu—E and W.
3. Between Kepulauan Karimata and Kepulauan Momparang—NW and SE.
4. Between Tanjung Sambar and Gosong Mampango—NW to WNW and SE.

A survey party, when lying at anchor near Kepulauan Karimata, frequently observed a sharply defined line of current rips, extending to the limit of visibility. This line shifted slowly N or S across the direction of the tidal current.

With rising water there appeared to be two tidal currents here, one setting N and the other S, which curved W after

meeting; the color of the water was different on either side of the rips.

It is presumed that this boundary disappears when the monsoon current becomes strong.

**Caution.**—On several occasions vessels in Selat Karimata have observed driftwood and debris, held together by floating masses of growth, so large and dense as to be mistaken from the distance for rocks or sand banks. Some of these have been reported to be visible for 5 to 8 miles.

**2.70 Florence Adelaide Karang** (2°04'S., 108°04'E.), 31 miles NNE of the N extremity of Pulau Belitung, is a steep-to coral reef with a depth of 3m, that is not marked by breakers or discoloration. It lies in a dangerous position, out of sight of land or navigational aids, and soundings give no warning.

An 18.3m patch lies 28 miles WSW of Florence Adelaide Karang, and a 9.4m patch was reported to lie 12.5 miles NW of the same reef. An 8m shoal lies 10.5 miles E of Florence Adelaide Karang.

A light was reported to be shown from an oil drilling structure about 21 miles W of Florence Adelaide Karang.

**Karang Ontario** (1°59'S., 108°39'E.), 35 miles E of Florence Adelaide Karang, is a coral reef with small patches of yellowish-brown sand that dries. When covered it shows as a light green patch, but is seen only at a short distance. The reef is marked by a light.

The line joining Florence Adelaide Karang and Ontario Reef must be considered the S limit of safe navigation for large vessels in the N approach to Karimata Strait.

**Karang Flying Fish** (Flying Fish Reef) (2°13'S., 108°37'E.), 14 miles S of Ontario Reef, consists of a number of coral patches lying close together with depths of 2m or less; the reefs are never marked by discoloration.

A 7.6m patch lies about 3.5 miles NE of Karang Flying Fish. Two patches, one 18.2m and the other 16.9m, lie 5 miles and 6 miles E of Karang Flying Fish, respectively.

**Terumbu Manggar** (Cirencester Shoal) (2°55'S., 108°56'E.), 24 miles S of Karang Tenang (Catherine Reef), is a small reef with a least depth of 3m. It is seldom marked by surf or discoloration, but there are frequent tide rips. A small sandbank, with a depth of 8.5m, lies 1.3 miles SSW of Terumbu Manggar.

Broken water, about 183m in diameter, indicating the possibility of a shoal patch, was reported to lie 5.5 miles ESE of Terumbu Manggar.

**Karang Batuan** (Cirencester Bank) (3°16'S., 108°58'E.), 22 miles S of Terumbu Manggar (Cirencester Shoal), is a coral reef which has a large black boulder, and a small brownish-yellow coral patch on it that dries. The boulder only covers at high water springs.

Gosong Kalumpang (Lavender Bank), 8.5 miles S of Karang Batuan, is a large reef with a number of black boulders which uncover at half tide. It is plainly marked by discoloration.

**Gosong Mampango** (Discovery East Bank) (3°35'S., 109°10'E.), 15 miles SE of Gosong Kalumpang, is a steep-to coral reef with a patch of sand, 2m high, in the middle. A light consisting of an iron-framework tower, standing on piles 24m high, is situated on the bank. A racon transmits from the light.

**Caution.**—It was reported (1992) that the light and its associated reefs lie 0.9 mile E of their charted positions.

**2.71 Karang Sambat** (Discovery Reef) (3°36'S., 108°50'E.), 21 miles W of Gosong Mampango, is a steep-to coral reef with a few above water rocks; at low water it dries over a length of 0.3 mile. It usually breaks heavily and the surf can be seen for a considerable distance.

**Karang Discovery Barat** (Gosong Abadi) (3°39'S., 108°45'E.) is a narrow reef, with a few above water rocks. The reef is 5.5 miles SW of Karang Sambat and about 47 miles SE of Tanjung Batuhitam, the SE extremity of Pulau Belitung. A narrow ridge on the formation, 0.5 mile in length, dries. This reef is always marked by discoloration and it always breaks.

Most of the reefs and dangers in the N approach to Selat Karimata lie within an area about 5 miles wide, which extends for a distance of about 14 miles S from a position 44 miles WSW of Tanjung Padangtikar on the W coast of Borneo. Most of these dangers are not marked by surf or discoloration and can be best seen on the chart.

**Karang Greig Utara** (North Greig Shoal) (0°52'S., 108°33'E.) is the farthest N of these dangers. The shoal has a depth of 9m.

Karang Greig Tengah (Middle Greig Shoal), with a depth of 5m and Karang Greig Selatan (South Greig Shoal), with a depth of 9m, lie 1.8 mile and 3 miles, respectively, SSW of Karang Greig Utara.

Karang Cina (China Reef), with a depth of 1m, lies 2.3 miles S of Karang Greig Selatan. Karang Twilight (Twilight Reef), with a depth of 2.5m and Karang Erikson (Erikson Rock), a coral reef with a depth of 7m, lie 6.5 miles SE and 6 miles S, respectively, of Karang Cina.

**Karang Gwalia** (1°06'S., 108°34'E.), a reef with a depth of 1m, occasionally breaking, lies 2.5 miles SSE of Karang Erikson. It is the farthest S of this group of dangers.

## Selat Karimata—East Side

**2.72** Kepulauan Karimata lies on the E side of the N part of the main route through Selat Karimata, and consists of the large islands, Pulau Karimata and Pulau Serutu, as well as smaller islets and reefs. Pulau Karimata, Pulau Serutu, and their off-lying islets are designated as a conservation area.

**Pulau Karimata** (1°37'S., 108°53'E.), the largest island of the group, is 32 miles SW of Tanjung Pasir, on the W coast of Borneo. Gunung Cabang (Gunung Tjabang), 1,030m high, is a rugged peak, frequently enveloped in clouds, in the center of the island. In clear weather it can be distinguished from a distance of 48 miles.

There is a village on the SE coast near the mouth of a stream. The SE coast between Tanjung Serunai, the E extremity of the island, and Tanjung Dungu, the S extremity of the island, is bordered by shallow water and reefs, which extend 2 to 3 miles offshore.

Foul ground extends SSE from Tanjung Dungu for 6 miles to a depth of 11.9m. Two drying reefs lie 4.8 and 5.5 miles S of Tanjung Serunai. Foul ground extends for 6 miles SE of Tanjung Serunai.

Pulau Besi lies near its outer end. Foul ground extends along the coast for 3 miles NW of Tanjung Serunai, with some drying reefs up to 1.3 miles offshore.

During the Northwest Monsoon, there is good anchorage in depths of 11 to 15m, 4 miles SE of Tanjung Dungu. During the

Southeast Monsoon, there is good anchorage about 2.3 miles W of Tanjung Senna (Tanjung Sena), the N extremity of Pulau Karimata, in depths of 24m, mud bottom.

In the area W of Tanjung Sena, vessels should not proceed farther S than a bearing of less than 079° on that point, because of the reefs in the bay SW of Tanjung Sena.

Several islets lie off the W side of Pulau Karimata. The highest of these, Pulau Begunung, is 0.5 mile off the W extremity of Pulau Karimata. It is easily distinguished by its sharp, conical summit, which rises to a height of 394m; the islet is visible from a distance of 32 miles.

Pulau Surungading, 240m high, and Genting, 57m high, are islets which lie 1.3 miles and 0.5 mile W, respectively, of Pulau Begunung.

Pulau Penangis, 20m high and Pulau Bulu, 120m high, lie 1.5 miles NW and 1 mile N, respectively, of Pulau Begunung. Pulau Kepajang is 1.3 miles E of Pulau Bulu. Pulau Lintang lies 0.4 mile S of Pulau Bulu, and Pulau Kra lies 1 mile E of Pulau Kepajang and close off the N coast of Pulau Karimata.

Vessels should not attempt to pass between any of these islets, as the adjacent reefs are steep-to and there is usually a strong current.

Kepulauan Sarangburung, formerly known as Vogelnest Eilanden, lies 21 miles ESE of Pulau Karimata and consists of five steep islets surrounded by coral reefs.

**Pulau Krawang** (1°44'S., 109°20'E.), 27m high, the E islet of the group, lies 4.5 miles SSW of Pulau Papan.

Pulau Pelubang, 45m high, Pulau Uma, 48m high, Pulau Ayer, 37m high, and Pulau Sumur, 26m high, lie 2.5 miles NW, 2.3 miles WNW, 2.5 miles WNW, and 2 miles WSW, respectively, of Pulau Krawang.

A rock, with a depth of 0.6m, lies 5.3 miles WNW of Pulau Krawang. An exposed wreck lies 1 miles W of Pulau Krawang.

**Tokongperangin** (Tokong Perangin) (1°47'S., 109°15'E.) is a steep, bare rock 16m high, of dark color, that appears as a cone when seen from a distance of 8 miles. Tokongperangin, 6 miles WSW of Pulau Krawang, forms a good landmark when approaching from the S. There is a reef with some above water rocks, 0.5 mile SE of Tokongperangin and a shoal, with a depth of 3m, lies 8.3 miles WSW of the rock.

**Pulau Macan** (1°39'S., 109°20'E.), Pulau Tawas and Pulau Papan are three rocky islets surrounded by coral reefs; Pulau Papan, 70m high, is the largest islet of the group. The three islets lie 5 miles N of Pulau Krawang.

## Islets North of Pulau Karimata

**2.73 Kepulauan Leman** (1°17'S., 108°53'E.) consists of five rocky islets, surrounded by reefs. Pulau (Leman Paku) Lemanpaku, the E and largest islet, is 54m high, and lies 14.5 miles N of the N extremity of Pulau Karimata.

Pulau Gua, 35m high, and Pulau Leman Tukung, lie close together on a reef with some above-water rocks, 0.5 mile NW of Pulau Lemanpaku.

Pulau Tiku, 23m high, lies 1.3 miles W of Pulau Lemanpaku and Pulau Lemanbudi (Pulau Leman Budi), 31m high, lies 1 mile NW of Pulau Tiku. A light is shown from Pulau Lemanbudi.

**Karang Yamsecie** (Yamcesie Reef) (1°24'S., 108°51'E.), with a depth of 9m, lies 8.5 miles NNW of the N extremity of Pulau



Karimata. At a distance of 1 mile from the reef, there are depths of 24m, sand and mud, and within that distance, on the SE side of the reef, there are depths of 16 to 20m, sand and stone.

### Islets East and Southeast of Pulau Karimata

**2.74 Pulau Bakung-kecil** (1°35'S., 109°12'E.), 49m high, is 13 miles E of the E extremity of Pulau Karimata. It is wooded, with steep rocky sides. Pulau Bakung-besar, 0.8 mile SW of Pulau Bakung-kecil, is a rounded islet, 72m high.

**Pulau Pandan** (1°34'S., 109°10'E.), 29m high, 2.3 miles WNW of Pulau Bakung-besar, is a small rounded rock covered with vegetation. It can be seen from a distance of 8 miles and is a useful landmark. There are other rocks on the reef surrounding Pulau Pandan. Pulau Lising (Pulau Lesing), 119m high, has a flat top and is surrounded by a reef; it lies 1.5 miles S of Pulau Pandan.

A 4.6m patch lies 1.3 miles SE of Pulau Lising. The area between this islet and Pulau Karimata is obstructed by reefs and should be avoided. A wreck lies 0.5 mile W of Pulau Lising.

**Pulau Mentangor** (1°42'S., 109°06'E.), 63m high, lies 8.5 miles SE of the E extremity of Pulau Karimata. Pulau Geresik, 38m high, and Pulau Genting, 38m high, lie 1 mile E and 0.5 mile W, respectively, of Pulau Mentangor. These three islets are thickly wooded and rounded in shape. A 3m shoal lies 7.8 miles SSE of Pulau Mentangor.

**Pulau Besi** (1°39'S., 109°03'E.), an islet 4 miles NW of Pulau Mentangor, has a conspicuous tower-shaped peak, 47m high, which rises above the flat, lower parts of the islet.

During the NW monsoon good anchorage can be found between Pulau Besi and Pulau Genting, in a depth of 12m, mud bottom. This anchorage can only be approached from the S.

**2.75 Pulau Serutu** (1°43'S., 108°44'E.) is the farthest SW of the islands of the Kepulauan Karimata. It is mountainous with a steep rocky coast. Its highest peak, 480m high, is near the center of the island.

The coasts are practically clear of dangers, but small bays and inlets are foul. The NW extremity of the island is a rocky peninsula, which appears as an islet when seen from the W. Near the N coast, heavy squalls come from the land in the SE monsoon.

Pulau Serutu Light and a racon are situated on an iron skeleton structure, 25m high, situated on a hill 1 mile inland from the W extremity of the island. An isolated depth of 25.6m was reported 9 miles WSW of the light.

Between Pulau Serutu and Pulau Karimata there is a deep, navigable channel, which has a width of 2.5 miles between the 11m lines. The E side of this passage is formed by a ridge of sand which extends 5 miles S from Tanjung Dungu. There is a depth of 1m, 1.5 miles S of Tanjung Dungu. The ridge of sand is generally marked by light green discoloration.

A local magnetic anomaly causing an increase of up to 2°E over the normal variation was reported to exist from 17 miles W to 13 miles S of Serutu Light.

**Directions.**—Vessels approaching the strait from the N should steer S along the meridian of 108°E until W of Karang Gwalia, taking care to avoid the 4.9m reef which lies 27 miles NNW of Karang Greig Utara (North Greig Shoal). Vessels

should steer between Pulau Serutu and Ontario Reef on a SE course to pass Pulau Serutu light-structure at 5 miles distance.

Vessels whose destination is the W part of Java Sea, when E of Kepulauan Momparang, steer S to pass E of Gosong Mampango Light and then change course, as required, to destination. Vessels whose destination is the E part of the Java Sea, should proceed as above, and when E of Kepulauan Momparang, steer SSE for position 4°00'S, 110°00'E, passing W of Gosong Aling (Fox Banks) and the reported shoal of 7.8m, which lies 17 miles WNW of Gosong Aling Light, then to destination.

**Caution.**—Fishermen with lamps frequent the S approach to Selat Karimata.

### Tanjung Pandangtikar to Tanjung Sambar

**2.76** The W coast of Borneo, from Tanjung Pandantikar to Tanjung Sambar, 155 miles SE, is mostly low and marshy. The rivers which discharge have banks of sand and mud at their mouths so even light-draft vessels can scarcely enter except at high water. The coast is sparsely populated.

**Tides—Currents.**—Currents on and W of the line joining Pulau Maya and Gosong Jelai are caused by the NW and SE monsoons, which are the predominant currents; these drift currents are affected somewhat by tidal currents. E of this line and farther inside Teluk Sukadana the diurnal currents predominate.

The currents close off the coast of Borneo flow in the following directions:

East of Karang Greig Utara (North Greig Shoal) with a rising tide the current sets S and with a falling tide the current sets N.

West of Pulau Maya with a rising tide the current sets S to SSE and with a falling tide the current sets N to NW.

Between Tanjung Sambar and Teluk Sukadana with a rising tide the current sets N to NNW and with a falling tide the current sets S to SSE.

South of Tanjung Sambar with a rising tide the current sets W and with a falling tide the current sets E to NE.

In the channel between Kepulauan Pelapis and Kepulauan Layah on the NE and Kepulauan Karimata on the SW, the monsoon currents predominate, running with increased force in the narrower parts. Between Pulau Maya and Pulau Panebangan, the tidal currents predominate.

The tidal currents predominate off the river mouths N of Pulau Maya. The monsoon winds have little effect on the currents in this area.

Local weather features light and variable winds off the W coast of Borneo in March and November. In the other months there may be varying periods of either E or W winds, which are also mainly light. The highest wind, force 3 or 4, occurs on June afternoons.

Short spells of drier weather are enjoyed when the main airflow crosses the mountainous interior. The number of rain days along the coast during the three months, July to September, is about half the number of rain days in other months. Rainfall decreases S toward the SW extremity of Borneo.

The coast between Tanjung Padangtikar and Tanjung Terung, 19 miles SSE, is formed by the W side of Pulau Padangtikar. The low coast is fronted by an extensive mudbank, with a few sandy ridges running nearly parallel to

the coast. Vessels should keep in depths of not less than 10m, and give this coast a berth of 9 miles.

**2.77 Gunung Sarat** (0°51'S., 109°29'E.), 227m high, is on Pulau Padangtikar, 7 miles NE of Tanjung Terung. Other landmarks in this area are; Gunung Bongkok, 330m high, 1 mile NNE of Gunung Sarat; Gunung Nuri (Noeri), 192m high, and; Gunung Entjemanan (Roemboer), which has three prominent peaks, the highest one being 259m high. Nuri and Entjemanan are 6 miles and 11.5 miles, respectively, ESE of Gunung Sarat.

**Teluk Nuri** (0°56'S., 109°30'E.) is entered between Tanjung Terung and Tanjung Capbelanda, 5.5 miles ESE. The bay is bound by Pulau Padangtikar on the N and Pulau Maya on the S. The W arm of Selat Maya is entered from the head of the bay.

**Pulau Masatiga** (0°57'S., 109°15'E.), 120m high, on the N side of the approach to Teluk Nuri, lies 9.3 miles W of Tanjung Terung and is visible up to 20 miles away.

An islet, 119m high, lies 0.5 mile E of Pulau Masatiga. Pulau Meresak, 60m high, and Pulau Dua (Pulau Doea), 29m high, lie 2.8 miles WSW and 2 miles SW, respectively, of Tanjung Terung.

**2.78 Pulau Hantu** (1°03'S., 109°18'E.) is thickly wooded and lies in the middle of the approach to the bay, 9.5 miles SW of Tanjung Terung. In clear weather the islet is visible 12 miles and appears as a small hummock.

The entrance channel to Teluk Nuri runs for about 10 miles in a NE direction from a point 4 miles E of Pulau Hantu, then gradually curves E, then SE, to the entrance to the W arm of Selat Maya. There is a bar, with a least depth of 3.9m, about 3 miles SE of Pulau Hantu.

**Directions.**—When approaching Teluk Nuri from the W, steer for the highest peak of Gunung Dusun, 6 miles S of Tanjung Capbelanda, bearing 080°. When Pulau Hantu is in line with the middle part of Pulau Masatiga, bearing about 336°, a NE course should be steered over the bar.

Driftwood and heavy tree trunks are frequently found embedded in the flat NW of the channel.

Small craft, with local knowledge, bound for Pontianak, can proceed into the W arm of Selat Maya and then follow the inland waterway routes.

**2.79 Pulau Maya** (1°08'S., 109°35'E.) is separated from the W coast of Borneo by Selat Maya. The SE coast of this island forms the NW side of Teluk Sukadana. The island is mostly low and marshy except in the NW part, where Gunung Dusun, 529m high, with two summits.

Between **Tanjung Capbelanda** (0°58'S., 109°30'E.) and Tanjung Pasir, the W extremity of Pulau Maya, 18 miles SSW, the coast is low and marshy.

Other landmarks, in addition to Gunung Dusun, are Sebiau, 212m high, 2.3 miles S of Tanjung Capbelanda, and a hill, 118m high, 1 mile NE of Tanjung Gunung. Gunung Berantak, 101m high, is 2.8 miles N of Tanjung Kluang (Tanjung Kloeang), the S extremity of the island.

There is a rocky hillock, 49m high, on Tanjung Satai, 13 miles ENE of Tanjung Kluang.

Pulau Nenas, a small islet, lies close offshore 3.5 miles SSW of Tanjung Capbelanda. Pulau Perling, 42m high, 2 miles NNE

of Tanjung Pasir and Pulau Aroh, 60m high, 1 mile SE of Pulau Perling, are two rocky islets which appear as hills on the coast.

A mudbank, with depths increasing seaward, extends from the S side of Pulau Maya. Off Tanjung Pasir, the bank is steep-to within a depth of 4m.

Many fishing stakes may be encountered in an area extending offshore between Tanjung Keluang and Tanjung Satai, inshore of a position 10 miles E of Tanjung Keluang.

## Teluk Sukadana

**2.80 Teluk Sukadana**, entered between **Tanjung Kluang** (1°18'S., 109°30'E.) and Tanjung Berasbasah, 40 miles SE, is important for local navigation between Pontianak, Sukadana, and Ketapang, through Selat Maya.

Selat Maya is the narrow channel between Pulau Maya and the mainland; the S entrance is 3 miles wide, but the navigable channel is reduced to 0.5 mile by mud flats which extend from either side. Tanjung Turun, 7 miles ENE of Tanjung Satai, is the W entrance point.

**Kumbang** (Koembang) (1°05'S., 109°49'E.), 90m high, is a prominent hillock on the E entrance point. The land on both sides of Selat Maya is low, and a large portion of the E side of Pulau Maya is submerged at high water.

There is a least depth of 1.8m on the extensive bank off the S entrance to the channel; within the strait there are depths of 6.7 to 11.9m.

The bank off the S entrance consists mostly of soft mud, but that which extends from Tanjung Turun is steep-to, rather hard, and its edge is sometimes marked by surf.

Sungai Simpang flows into the NE part of Teluk Sukadana, 8 miles E of Kumbang, but can only be entered by vessels of light draft as there is an extensive flat of soft mud off the mouth.

The channel over the flat, which is not marked, has a depth of 0.8m. The village of Telukmelano, the capital of the district, is on the N bank of the river 2 miles within its mouth.

**Sungai Sukadana** (1°14'S., 109°57'E.) flows into a small bay, 7.5 miles S of Sungai Simpang. Some above-water and sunken rocks, and the small islet Pulau Salahnama, lie close off Tanjung Krunut, the S entrance point of the bay. Sukadana, a local administrative center, is on the N side of the mouth of Sungai Sukadana.

From Tanjung Krunut, visible up to 36 miles, the E shore of Teluk Sukadana trends 2.3 miles SSE to Tanjung Penaga, then 5 miles SE to Tanjung Gunung, a prominent rocky point.

From Tanjung Gunung to Sungai Kandang Karbau, 32 miles SSW, the E shore of Teluk Sukadana is low, marshy, and thickly wooded.

There are several mountains around Sukadana, the most prominent being Lobang Tedong, 551m high, 4.5 miles NW of Tanjung Gunung and Gunung Pekajang, 515m high, 5 miles farther NW. Both are conical.

Other prominent peaks on this coast are **Gunung Palung** (1°12'S., 110°09'E.), 1,116m high, a table-topped mountain 9.5 miles NE of Tanjung Gunung, and Gunung Seberuang (Gunung Seberoeang), 743m high, 6.8 miles S of Gunung Palung, which has a small nipple on its summit.

**2.81 Pulau Juanta** (1°21'S., 109°54'E.) is a rocky, thickly wooded islet, 150m high, which lies 8 miles WSW of Tanjung Gunung. It has a conical summit visible up to 24 miles and is a good landmark for the channel to Selat Maya. Pulau Katung, 52m high, is 1 mile SW of Pulau Juanta; it is rocky and thickly wooded. There is a reef, which usually breaks, 0.5 mile NW of Pulau Katung. Some above water rocks lie between the two islets and some above and below-water rocks lie 1.3 miles ESE of Pulau Juanta.

Several above and below-water rocks and rocky islets lie within 2 miles off Tanjung Gunung, making navigation in depths of less than 5m very dangerous.

Pulau Sempadeh-besar, Pulau Sempadeh-kecil, and Pulau Tjempedak, 94, 90, and 93m high, respectively, are thickly wooded islets with rocky sides, lying near the coast 7 miles S of Tanjung Gunung.

**Sungai Kandang Karbau** (1°46'S., 109°56'E.) and Sungai Ketapang, 3 miles farther SW, are the two principal arms of the delta of Sungai Pawan; the channel across the drying bar is marked by privately maintained beacons. Vessels without local knowledge should not attempt to enter without a local pilot.

**Tanjung Bawang** (1°47'S., 109°55'E.) is the S entrance point of Sungai Kandang Karbau, and Tanjung Adung, 2 miles ENE, forms part of the N entrance. The flats, within the 5m line, extend 2.8 miles W of Tanjung Adung; the drying shore bank extends 2.3 miles W from the same point. A reef was reported (1993) 8 miles WNW of the point.

Ketapang, the headquarters of a government official, is 3 miles up Sungai Ketapang, but power vessels can only reach the place through Sungai Kandang Karbau. There is a pier at Ketapang with a depth of 1.1m alongside.

The channel leading to Sungai Kandang Karbau may shift according to the prevailing monsoon; there is often a considerable sea here. The bottom consists of mud and sand. Tidal currents set across this channel at a rate of from 2 to 2.5 knots with the ebb tide; there is little or no current with the flood tide.

Anchorage may be obtained, sheltered from the SW swell, N of Tanjung Adung, in a depth of 3.5 to 5m.

Tanjung Berasbasah, the S entrance point of Sungai Ketapang, is a low muddy point fronted by a coastal bank, which is not easily recognized, and which dries for a distance of 0.5 to 1 mile W of the entrance to Sungai Ketapang. The point is 3 miles SSW of Tanjung Bawang.

## Channels East of Kepulauan Karimata

**2.82** Between Kepulauan Karimata and the W coast of Borneo there are several groups of islands, and between these there are three channels:

1. The Inner Route leads between Pulau Maya and Pulau Panebangan and then E of Kepulauan Layah.
2. Greig Channel leads between Pulau Panebangan, Kepulauan Pelapis, E of Kepulauan Gurung, W of Kepulauan Layah, and then E of Pulau Papan.
3. There is a broad channel between Kepulauan Pelapis and Pulau Buan, 10 miles SSW.

**Inner Route.**—This route is usually taken by small vessels proceeding from Selat Karimata to Pontianak through the delta of Sungai Kapuas, via Inland Waterway Route II.

There is less sea here than in Selat Karimata and vessels have the opportunity of anchoring if necessary. This channel can be navigated at night, by soundings, with local knowledge; less water than charted may be found in this channel. There are several islands and dangers near the channel.

**Pulau Panebangan** (1°13'S., 109°15'E.), with a height of 525m, is 7.5 miles WNW of Tanjung Pasir, the W extremity of Pulau Maya; it is thickly wooded. Pulau Aur, 52m high, with a small islet 0.25 mile S, are two wooded islets 3.3 miles E of the highest summit of Pulau Panebangan. Pulau Julai, 0.8 mile NW of Pulau Aur, is also wooded. Pulau Terusanhaji is a high islet lying 0.5 mile off the E extremity of Pulau Panebangan, and there are some above-water rocks 0.5 mile NE of it. The tidal currents are usually strong along the E coast of Pulau Panebangan.

**2.83 Pulau Sireh** (1°14'S., 109°12'E.), 120m high, 0.8 mile W of the W extremity of Pulau Panebangan, is on the E side of the N entrance to Greig Channel. A low islet lies close off its N point and an above-water rock lies close off its W extremity. There is a safe passage between Pulau Sireh and Pulau Panebangan.

Pulau Burung, a wooded islet 53m high, is 5.3 miles WSW of Tanjung Pasir.

Greig Channel, a deep 2 mile wide channel separating Kepulauan Pelapis from Pulau Panebangan, is frequently used by vessels proceeding between Pontianak and Jawa.

Kepulauan Pelapis consists of five high, thickly-wooded, rocky islands and two islets on the W side of Greig Channel. During clear weather they may be seen up to 32 miles.

**Pulau Dua** (1°17'S., 109°12'E.), the farthest E of Kepulauan Pelapis, lies 1.5 miles SSW of Pulau Sireh.

The islet is 108m high. It has two conspicuous summits, and when seen from a distance appears as two islets. A depth of 6.7m lies 0.4 mile S of Pulau Dua.

**Pulau Balai** (1°17'S., 109°10'E.) is separated from Pulau Dua by a deep channel about 0.6 mile wide. Pulau Genting, 360m high, lies close SW of Pulau Balai.

Pulau Kelawar (1°18'S., 109°08'E.), about 1 mile W of the summit of Pulau Genting is the western island of the group. There is a small islet, 42m high, 0.3 mile SW of its S extremity.

**Pulau Aermasin** (1°17'S., 109°08'E.) is about 0.5 mile NNW of Pulau Kelawar. A rock, awash, lies 0.2 mile off its W extremity.

Anchorage may be obtained in a bay, with depths of 12 to 16m, mud bottom, 0.8 mile N of the N extremity of Pulau Genting. This anchorage is sheltered in the SE monsoon. E and SE of this anchorage there is a coral reef with some above-water rocks, which extends 0.3 mile from the W side of Pulau Balai.

During the NW monsoon, good anchorage can be obtained about 0.5 mile SSW of the S extremity of Pulau Balai in depths of 10 to 12m, mud bottom.

**2.84 Pulau Suka** (1°20'S., 109°07'E.), 1.5 miles SW of the S extremity of Pulau Genting, is a thickly wooded islet, 88m high, with steep, rocky sides. A light is shown from the islet.

Karang (Tallack) Talack, a steep-to coral reef with a depth of 3m, lies 1.8 miles SSE of Pulau Suka. In calm weather and with a strong tidal current, it is marked by tide rips.

**Kepulauan Burong** (Kepulauan Gurung) (1°25'S., 109°13'E.) are two rocky, wooded islets, lying close together

on a reef, 6.8 miles SE of Pulau Genting. The W islet is 96m high.

A coral reef, with a depth of 2.1m, lies 0.5 mile ESE of the E islet. The reef is not marked by discoloration or surf, but there are usually tide rips.

**Kepulauan Layah** (1°30'S., 109°21'E.) consists of several rocky, thickly wooded islets. Pulau Meledang, the largest islet of the group, 129m high, is 12.5 miles SSW of Tanjung Kluang, the S extremity of Pulau Maya. Pulau Bulat, a small islet 48m high, is 0.8 mile N of Pulau Meledang, and two small islets lie within 0.5 mile WSW of it. Pulau Mensigi is 1.5 miles W of the S extremity of Pulau Meledang.

A deep channel lies between the two islets. Rob Roy Rock, a small coral reef with a depth of 4.6m, steep-to on its N and W sides, unmarked in any way, lies in midchannel 1 mile NE of Pulau Mensigi.

Kate of Auckland Rock, with a depth of 2.1m, is on the W side of the channel, 1 mile NW of Pulau Mensigi. The rock is sometimes marked by breakers and more frequently by tide rips, but there is no discoloration.

There is usually a monsoon current with a rate of 1.25 to 2 knots during the strength of the monsoon. In the Northwest Monsoon it sets SE; in the Southeast Monsoon, it sets NNW.

Pulau Lajah Besar, 100m high, lies 2.3 miles SW of Pulau Meledang. Pulau Lajah Ketjil, the SW island of the group, is 0.5 mile SW of Lajah Besar. It is 51m high, and is completely covered with coconut trees.

The broad channel between Pulau Suka and **Pulau Buan** (1°29'S., 109°03'E.), 8.8 miles SSW, is seldom used. Pulau Buan has a prominent conical summit, 311m high; the N side of the island, where there is a narrow, foul bay, is steep-to.

A light is shown from the N point of the island. Pulau Nibung, 26m high, 1 mile E of Pulau Buan, and Pulau Ular 21m high, 1.3 miles W of Pulau Buan, are two rocky islets with a few trees.

A reef, which dries and usually breaks, lies 1.8 miles ESE of Pulau Nibung.

The channel continues in a SE direction from Pulau Buan and passes W of Kepulauan Layah, E of the dangers that lie E of Pulau Karimata, then E of Pulau Macan.

## Tanjung Berasbasah to Tanjung Sambar

**2.85** The coast between Tanjung Berasbasah and Tanjung Pagarantimun, 27 miles SSE, is low and densely wooded.

Sungai Pesaguan flows out through the coast, 17.5 miles SE of Tanjung Berasbasah. The maximum depth over the bar off the mouth of the river is 0.9m.

**Tanjung Bengkuang** (2°11'S., 110°05'E.) lies 9 miles S of the mouth of Sungai Pesaguan.

**Tanjung Pagarantimun** (2°15'S., 110°04'E.) lies 3.5 miles SSW of Tanjung Bengkuang; it is a hilly peninsula, 83m high, with rock sides. The point is visible from a distance of 20 miles, where it appears like a small mountain with a gentle slope on its W side.

The coast between Tanjung Berasbasah and Tanjung Pagarantimun should not be approached within the 11m line, as the depths inside this line are irregular and there are sand ridges in the area.

Pulau Tjebe, a low islet, lies 1 mile N of Tanjung Bengkuang. There is foul ground between the islet and the point.

A reef, with some large drying rocks, usually unmarked by breakers, lies 2 miles NW of Tanjung Pagarantimun.

**Pulau Mengkudu** (2°15'S., 109°59'E.), 4.5 miles W of Tanjung Pagarantimun, is a steep rock, 8m high, sparsely covered with vegetation, with a few trees. The rock is surrounded by a steep-to reef, which has some above-water rocks.

The coast from Tanjung Pagarantimun to Tanjung Gangsa, 12 miles SSE is low. Sungai Tengar discharges 8.5 miles SSE of Tanjung Pagarantimun.

**Tanjung Gangsa** (2°26'S., 110°09'E.) is a high, rocky point. The land in the vicinity is hilly. Foul ground extends 1 mile S. From Tanjung Gangsa, the coast trends 6.3 miles SSE to the mouth of Sungai Kendawangan.

From Sungai Kendawangan the coast trends SSW 6.3 miles to Tanjung Batujurung, a high, rocky point. The coast for 3 miles NE of Tanjung Batujurung, is high and rocky.

**2.86 Gunung Kediyo** (2°21'S., 110°18'E.), 492m high, is a prominent landmark 10.5 miles NE of Tanjung Gangsa. Gunung Panjang, a hilly and rugged ridge with three prominent summits, lies between Tanjung Gangsa and Gunung Kediyo. The highest of the three summits rises to a height of 245m, and is 3 miles SW of Gunung Kediyo.

A narrow ridge of hills, which attains an elevation of 204m in a conical peak 3.5 miles NE of Tanjung Batujurung, extends 4 miles farther ENE to the S bank of Sungai Kendawangan.

The 11m line lies about 9 miles offshore along this coast. Onrust Reef, 7 miles SW of Tanjung Pagarantimun, has a small patch of light brown sand and white coral which dries 0.6m; it appears as a small sandbank when seen from a distance.

**Pulau Sawi** (2°23'S., 110°04'E.), 7.8 miles S of Tanjung Pagarantimun, is low. There are some tall trees, which are visible from a distance of 12 miles. The islet lies inside the 5.5m line, and is fringed by rocks except on the N side. Depths of less than 2m extend 2.5 miles E of the island.

The coast between Tanjung Gangsa and the mouth of Sungai Kendawangan, is foul for 1 mile offshore in places. Pulau Kucing (Kutjing) lies 3.5 miles SSE of Tanjung Gangsa and Pulau Jambat lies 1.5 miles S of Pulau Kutjing.

Batu Buntal, awash, lies near the extremity of foul ground which extends W for 1.3 miles from the N entrance point of Sungai Kendawangan.

A spit, with depths of less than 2m, extends 0.8 mile S from Batu Buntal. A rock, with less than 2m, lies 0.4 mile SE of Batu Buntal.

A drying shore bank extends 0.8 mile W from the S entrance point of Sungai Kendawangan, and extends about 4 miles S along the coast.

A dangerous rock lies 2.3 miles offshore, 3.3 miles NNE of Tanjung Batujurung.

Sungai Kendawangan can be distinguished from a distance of 4 miles, when still in a depth of over 5m. Closer in the depths are irregular.

Several years ago, the bar at the mouth of Sungai Kendawangan had a greatest depth of 1.5m at LW.

Within the entrance, the river is broad and deep and is navigable by small power vessels about 22 miles upstream.

The village of Kendawangan is on the N bank of the river, just within its entrance.

The coast from Tanjung Batujuring trends in a SSE direction about 8 miles to Tanjung Simbar; the intervening area is wooded and marshy.

**2.87 Tanjung Kepala** (2°53'S., 110°14'E.) lies 9 miles S of Tanjung Simbar. The shore between these two points is indented by a bay with a sandy beach.

From Tanjung Kepala, the coast continues in a SSE direction 8 miles to Tanjung Sambar, the SW extremity of Borneo.

There are several islands and islets within the 11m line, which lies 16 miles offshore, W of Tanjung Simbar.

**Pulau Cempedak** (2°38'S., 110°07'E.), a low thickly-wooded island almost entirely surrounded by reefs and rocks, is 1.5 miles W of Tanjung Batujuring. It has a rocky coast, except on the SE, where there is a sandy beach.

The W side of the island should not be approached within a distance of 0.6 mile. Pulau Tating and Pulau Iras are two rocky islets which lie close offshore between Tanjung Batujuring and Pulau Cempedak.

**Pulau Bawal** (2°43'S., 110°05'E.) is a large, densely-wooded island, 6 miles W of Tanjung Simbar. The island is mostly low but there are two hills.

One hill, 88m high, is near the center of the island and the other hill, 67m high, is in the NE part of the island. Off the N extremity there are some small islets. Pulau Tanahmerah, the highest of these, is reddish in color and rounded in shape. The SW extremity of Pulau Bawal is marked by a light.

Anchorage, sheltered in both monsoons, may be obtained E of Pulau Bawal, in depths of 13 to 20m, mud.

This anchorage can be reached through the channel between Pulau Cempedak and Pulau Tanahmerah, or through the channel between Pulau Cempedak and Pulau Iras.

Both of these channels are very narrow. Local knowledge and extreme caution are necessary for their safe navigation.

**2.88 Corocyra Bank** (Gosong Corcyra) (2°49'S., 110°01'E.), with a depth of 3m, lies 4.5 miles SSW of the W extremity of Pulau Bawal, and is not marked by surf or

discoloration. All this area is dangerous due to rocks and sandy shoals. Depths of less than 10m extend up to 4 miles W of Corocyra Bank.

Pulau Perantung, a low rocky islet, lies 4 miles E of Corocyra Bank. Pulau Magnin, 0.8 mile SE of Pulau Perantung, is a prominent rock covered with vegetation.

Pulau Langau, 2.3 miles S of Pulau Magnin, is a moderately high, rocky islet with a rugged appearance, which is visible 14 miles.

Pulau Gambar, 0.8 mile S of Pulau Langau, consists of two vegetation-covered rocks, standing close together. Strong tidal currents are reported between these islands.

**2.89 Pulau Gelam** (2°53'S., 110°10'E.), 1.5 miles W of Tanjung Kepala is low and densely wooded. It is difficult to distinguish from W as it appears as a long slightly darker strip against the coast behind.

Foul and rocky ground extends for a considerable distance N and S from the island, and patches, with depths less than 10m, extend for 7 miles SW and 9 miles W.

There are depths of 5m, 1 mile off the NW sides of Pulau Gelam, where anchorage may be obtained by small vessels, with local knowledge.

**Karang Karysfort** (Carysfort Reef) (2°40'S., 109°49'E.), which has a least depth of 3.7m, live coral, is 21 miles W of Tanjung Batujuring.

The reef lies on the center of a bank with depths of less than 20m, which is 2.3 miles in extent. A dangerous coral rock lies 8 miles S of Carysfort Reef.

The area for a distance 40 miles S of **Tanjung Sambar** (3°00'S., 110°19'E.), the SE extremity of Borneo, embracing Gosong Aling (Fox Banks) and Gosong Jelai (Clemencia Bank), is encumbered with ridges of sand, marked by tide rips and overfalls, and is not navigable.

Vessels should pass well S of these dangers, out of sight of land, and those approaching from N should allow for the strong E set across the banks.

The dangers S and E of Tanjung Sambar are discussed beginning in [paragraph 9.2](#).